Oracle® Applications System Administrator's Guide

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Contents

Preface ..... **i**

Chapter 1 **What Is System Administration?** ..... **1 – 1**
What Is System Administration? ..... 1 – 2

Chapter 2 **Managing Oracle Applications Security** ..... **2 – 1**
Overview of Oracle Applications Security ..... 2 – 2
Defining a Responsibility ..... 2 – 4
Defining a Request Security Group ..... 2 – 6
Responsibilities Window ..... 2 – 9
Overview of Security Groups ..... 2 – 14
Security Groups Window ..... 2 – 15
Users Window ..... 2 – 16
Overview of Function Security ..... 2 – 21
Implementing Function Security ..... 2 – 27
Form Functions Window ..... 2 – 32
Menus Window ..... 2 – 36
Menu Viewer ..... 2 – 39
Function Security Reports ..... 2 – 41
Menu Report ..... 2 – 42
Users of a Responsibility Report ..... 2 – 44
Active Responsibilities Report ..... 2 – 45
Active Users Report ..... 2 – 46
Reports and Sets by Responsibility Report ..... 2 – 47

Chapter 3 **User and Data Auditing ..... 3 – 1**
Overview of User and Data Auditing ..... 3 – 2
Auditing User Activity ..... 3 – 3
Monitor Users Window ..... 3 – 8
Signon Audit Concurrent Requests Report ..... 3 – 10
Signon Audit Forms Report ..... 3 – 12
Signon Audit Responsibilities Report ..... 3 – 15
Signon Audit Unsuccessful Logins Report ..... 3 – 17
Signon Audit Users Report ..... 3 – 19
Purge Signon Audit Data Program ..... 3 – 21
Reporting On AuditTrail Data ..... 3 – 22
Audit Installations Window ..... 3 – 34
Audit Groups Window ..... 3 – 36
Audit Tables Window ..... 3 – 40

Chapter 4 **Managing Concurrent Programs and Reports ..... 4 – 1**
Overview of Concurrent Programs and Requests ..... 4 – 2
Multilingual Support for Concurrent Requests ..... 4 – 4
Organizing Programs into Request Sets ..... 4 – 6
Request Sets Report ..... 4 – 18
Organizing Programs into Request Groups ..... 4 – 19
Report Group Responsibilities Report ..... 4 – 24
Defining Program Incompatibility Rules ..... 4 – 25
Defining Data Groups ..... 4 – 30
Custom Concurrent Programs ..... 4 – 35
Copying and Modifying Program Definitions ..... 4 – 47
Concurrent Program Details Report ..... 4 – 57
Concurrent Programs Report ..... 4 – 58
Request Groups Window ..... 4 – 59
Concurrent Program Executable Window ..... 4 – 61
Concurrent Programs Window ..... 4 – 66
Data Groups Window ..... 4 – 81

Chapter 5 **Managing Concurrent Processing ..... 5 – 1**
Overview of Concurrent Processing ..... 5 – 2
Integration with Oracle Enterprise Manager ..... 5 – 5
Oracle Applications Manager ..... 5 – 7
Oracle Management Pack for Oracle Applications ..... 5 – 8
Reviewing Requests, Request Log Files, and Report Output Files ..... 5 – 10

Changing the Status of Concurrent Requests ..... 5 – 18
Managing Concurrent Processing Files and Tables ..... 5 – 20
Purge Concurrent Request and / or Manager Data Program .... 5 – 22
Concurrent Processing User Profile Settings ..... 5 – 26
Defining Managers and their Work Shifts ..... 5 – 28
Completed Concurrent Requests Report ..... 5 – 36
Work Shift by Manager Report ..... 5 – 37
Work Shifts Report ..... 5 – 38
Specializing Managers to Run Only Certain Programs ..... 5 – 39
Grouping Programs by Request Type ..... 5 – 55
Controlling Concurrent Managers ..... 5 – 57
Overview of Parallel Concurrent Processing ..... 5 – 66
Managing Parallel Concurrent Processing ..... 5 – 70
Concurrent Managers and Oracle Parallel Server (OPS) ..... 5 – 79
Administer Concurrent Managers Window ..... 5 – 83
Concurrent Managers Window ..... 5 – 92
Work Shifts Window ..... 5 – 100
Combined Specialization Rules Window ..... 5 – 102
Concurrent Request Types Window ..... 5 – 105
Viewer Options Window ..... 5 – 107
Nodes Window ..... 5 – 109

Chapter 6 **Printers ..... 6 – 1**
Overview of Printers and Printing ..... 6 – 2
Setting Up Your Printers ..... 6 – 14
Customizing Printing Support in Oracle Applications ..... 6 – 17
Postscript Printing in UNIX ..... 6 – 24
Hierarchy of Printer and Print Style Assignments ..... 6 – 26
Printing with UTF8 ..... 6 – 32
Printer Types Window ..... 6 – 41
Printers Window ..... 6 – 43
Print Styles Window ..... 6 – 45
Printer Drivers Window ..... 6 – 48

Chapter 7 **Oracle Applications Help ..... 7 – 1**
Customizing Oracle Applications Help ..... 7 – 2

Chapter 8 **Applications DBA Duties ..... 8 – 1**
Overview of Applications DBA Duties ..... 8 – 2
Resource Consumer Groups in Oracle Applications ..... 8 – 7

Oracle Applications Schema Password Change Utility ..... 8 – 9
ORACLE Users Window ..... 8 – 12
Concurrent Conflicts Domains Window ..... 8 – 16
Applications Window ..... 8 – 18
Network Test Window ..... 8 – 21
Administering Folders ..... 8 – 23
Languages Window ..... 8 – 27
Territories Window ..... 8 – 29

Chapter 9 **Cost–Based Optimization in Oracle Applications ..... 9 – 1**
Oracle Applications and Cost–Based Optimization ..... 9 – 2
Parameters for Cost–Based Optimization ..... 9 – 3
Concurrent Programs for CBO ..... 9 – 9
Gather Table Statistics ..... 9 – 10
Backup Table Statistics ..... 9 – 12
Restore Table Statistics ..... 9 – 13
Gather Schema Statistics ..... 9 – 14
Gather Column Statistics ..... 9 – 15
Analyze All Index Column Statistics ..... 9 – 16
FND_STATS Package ..... 9 – 17
FND_CTL Package ..... 9 – 32

Chapter 10 **User Profiles ..... 10 – 1**
Overview of Setting User Profiles ..... 10 – 2
User Profile Option Values Report ..... 10 – 5
System Profile Values Window ..... 10 – 6

Chapter 11 **Administering Process Navigation ..... 11 –1**
Overview of Process Navigation ..... 11 –2
Modifying Your Menu ..... 11 –3
Creating Process Navigator Processes ..... 11 –4

Chapter 12 **Document Sequences ..... 12 – 1**
Document Sequences Window ..... 12 – 9
Document Categories Window ..... 12 – 12
Sequence Assignments Window ..... 12 – 14

Chapter 13 **Developer Tools ..... 13 – 1**
Developer Tools ..... 13 – 2
Work Directory ..... 13 – 3

Web Enabled PL/SQL Window ..... 13 – 5

Appendix A **User Profiles ..... A – 1**

Appendix B **Using Predefined Alerts ..... B – 1**
Overview of Oracle Alert ..... B – 2
Predefined Alerts ..... B – 5
Oracle Alert Precoded Alerts ..... B – 10

Appendix C **Loaders ..... C – 1**
Generic Loader ..... C – 2
Application Object Library Configuration Files ..... C – 11
Concurrent Program Configuration File ..... C – 12
Request Groups Configuration File ..... C – 14
Lookups Configuration File ..... C – 15
Profile Options and Profile Values Configuration File ..... C – 17
Flexfields Setup Data Configuration File ..... C – 19
Attachments Setup Data Configuration File ..... C – 23
Messages Configuration File ..... C – 26
Message Dictionary Generator ..... C – 27
Function Security Loader ..... C – 29
Generic File Manager Access Utility (FNDGFU) ..... C – 38

Appendix D **Multilingual External Documents ..... D – 1**
Multilingual External Documents ..... D – 2

Appendix E **Character Mode to GUI Appendix ..... E – 1**
Oracle Applications System Administrator's
Character Mode Forms and Corresponding GUI Windows .... E – 2

Appendix F **Implementation Appendix ..... F – 1**
Setting Up Oracle Applications System Administrator ..... F – 2

Appendix G **Setting Up and Maintaining Oracle Applications ..... G – 1**
Maintaining Your Oracle Applications Configuration ..... G – 2

Administering the TCF Server ..... G – 16
Administering Oracle HTTP Server Powered by Apache ..... G – 28
Setting Up Concurrent Managers ..... G – 42
Invoking Web Discoverer through ICX ..... G – 61

Glossary

Index

Preface

About This User's Guide

This guide is the primary source of information about Oracle Applications System Administration. It contains overviews as well as task and reference information. This guide includes the following chapters:

- Chapter 1 describes the job of an Oracle Applications System Administrator, and contrasts it with the job of an Oracle Database Administrator.
- Chapter 2 explains how to secure access to the data and functionality within your Oracle Applications.
- Chapter 3 explains how to audit your application users and the changes they effect on your application's data.
- Chapter 4 describes the help architecture for HTML as well as explaining how to customize Oracle Applications help.
- Chapter 5 explains the role of user profiles in Oracle Applications.
- Chapters 6 and 7 explain concurrent processing in Oracle Applications, including how you can manage programs running concurrently in the background while your users continue to perform online tasks and how to manage your concurrent programs and organize those programs into groups and sets.
- Chapter 8 explains using printers with Oracle Applications.
- Chapter 9 explains Oracle Applications security tasks that require a database administrator to either explicitly perform, or assist by performing prerequisite tasks.
- Chapter 10 explains how you can use document sequences and dynamic currency with your Oracle Applications.
- Chapter 11 describes the architecture and implementation details for the CUSTOM library.

The Appendixes provide a reference source about the default menus, user profile options, runtime Alerts, and loaders included with Oracle System Administration. Also, one appendix lists the supported multilingual external documents in Oracle Applications. Finally, there are also appendixes for setting up Oracle Applications and implementing Oracle System Administration.

This user's guide is available online

All Oracle Applications user's guides are available online, in both HTML and Adobe Acrobat format. (Most other Oracle Applications documentation is available in Adobe Acrobat format.)

The paper and online versions of this manual have identical content; use whichever format is most convenient.

The HTML version of this book is optimized for on–screen reading, and lets you follow hypertext links for easy access to books across our entire library; you can also search for words and phrases if your national language is supported by Oracle's Information Navigator. The HTML documentation is available from the Oracle Applications toolbar, or from a URL provided by your system administrator.

You can order an Oracle Applications Documentation Library CD containing Adobe Acrobat versions of each manual in the Oracle Applications documentation set. Using this CD, you can search for information, read it on–screen, and print individual pages, sections, or entire books. When you print from Adobe Acrobat, the resulting printouts look just like pages from an Oracle Applications hardcopy manual.

> There may be additional material that was not available when this user's guide was printed. To learn if there is a documentation update for this product, look at the main menu on this product's HTML help.

Assumptions

This guide assumes you have a working knowledge of the principles and customary practices of your business area. If you have never used Applications we suggest you attend one or more of the Oracle Applications System Administration training classes available through Oracle Education. (See Other Information Sources for more information about Oracle training.)

This guide also assumes that you are familiar with the Oracle Applications graphical user interface. To learn more about the Oracle Applications graphical user interface, read the *Oracle Applications User's Guide.*

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle provides powerful tools you can use to create, store, change, retrieve and maintain information in an Oracle database. But if you use Oracle tools like SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using an Oracle Applications form can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications forms, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

Warning: Oracle Applications does not support *any* customization of Oracle Application Object Library tables or modules, even by Oracle consultants. Oracle Application Object Library table names begin with "FND_".

Do not write data directly into or change data in FND_ tables through any custom program or using any tool, including SQL*Plus, Oracle Data Browser, database triggers or other programming tools. You risk corrupting your database and damaging all your applications.

When you use Oracle Applications forms to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. But, if you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

Consequently, we STRONGLY RECOMMEND that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications tables, unless we tell you to do so in our manuals.

Other Information Sources

You can choose from many sources of information, including documentation, training, and support services, to increase your

knowledge and understanding of Oracle Applications System Administration.

Most Oracle Applications documentation is available in Adobe Acrobat format on the *Oracle Applications Documentation Library* CD. We supply this CD with every software shipment.

If this manual refers you to other Oracle Applications documentation, use only the Release 11*i* versions of those manuals unless we specify otherwise.

Oracle Applications User's Guide

This guide explains how to navigate, enter data, query, run reports, and introduces other basic features of the graphical user interface (GUI). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent requests.

You can also access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help file.

Related User's Guides

If you do not have the hardcopy versions of these manuals, you can read them by choosing Library from the Help menu, or by reading from the Oracle Applications Document Library CD, or by using a web browser with a URL that your system administrator provides.

Oracle Applications Flexfields Guide

This manual provides flexfields planning, setup, and reference information for the Oracle Applications System Administration implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

Oracle Workflow Guide

This manual explains how to define new workflow business processes as well as customize existing Oracle Applications–embedded workflow processes. You also use this guide to complete the setup steps necessary for any Oracle Applications product that includes workflow–enabled processes.

Oracle Alert User's Guide

This manual explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Country–Specific Manuals

Use these manuals to meet statutory requirements and common business practices in your country or region. They also describe additional features added to Oracle Applications System Administration to meet those requirements. Look for a User's Guide appropriate to your country; for example, see the *Oracle Financials for the Czech Republic User's Guide* for more information about using this software in the Czech Republic.

Oracle Applications Character Mode to GUI Menu Path Changes

This is a quick reference guide for experienced Oracle Applications end users migrating from character mode to a graphical user interface (GUI). This guide lists each character mode form and describes which GUI windows or functions replace it.

Oracle Financials Open Interfaces Guide

This guide is a compilation of all open interface discussions in all Oracle Financial Applications user's guides. You can also read about the Oracle Applications System Administration open interface tables in the appendix of the *Oracle Applications Guide.*

Multiple Reporting Currencies in Oracle Applications

If you use Multiple Reporting Currencies feature to record transactions in more than one currency, use this manual before implementing Oracle Applications System Administration. The manual details additional steps and setup considerations for implementing Oracle Applications System Administration with this feature.

Multiple Organizations in Oracle Applications

If you use the Oracle Applications Multiple Organization Support feature to use multiple sets of books for one Oracle Applications System Administration installation, use this guide to learn about setting up and using Oracle Applications System Administration with this feature.

Oracle Applications Implementation Wizard User's Guide

If you are implementing more than one Oracle product, you can use the Oracle Applications Implementation Wizard to coordinate your setup activities. This guide describes how to use the wizard.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the *Oracle Applications User Interface Standards for Forms–Based Products*. It also provides information to help you build your custom Developer / 2000 forms so that they integrate with Oracle Applications.

Oracle Applications User Interface Standards for Forms–Based Products

This manual contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms 6.0.

Installation

Oracle Applications Concepts

This guide provides an introduction to the concepts, features, technology stack, architecture, and terminology for Oracle Applications Release 11*i*. It provides a useful first book to read before an installation of Oracle Applications. This guide also introduces the concepts behind, and major issues, for Applications–wide features such as Business Intelligence (BIS), languages and character sets, and self–service applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time it takes to install Oracle Applications and the Oracle 8 Server technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you need to perform to finish your installation. You should use this guide in

conjunction with individual product user guides and implementation guides.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i*. This guide describes the upgrade process in general and lists database upgrade and product–specific upgrade tasks. You must be at either Release 10.7 (NCA, SmartClient, or character mode) or Release 11.0 to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

Maintaining Oracle Applications

This guide provides instructions for maintaining the Applications file system and database, and directions on using the Applications DBA (AD) utilities, the main tools for these tasks. In addition to maintaining Applications, the AD utilities are also used for installing, patching, and upgrading Oracle Applications products.

Oracle Application Object Library Technical Reference Manual

The *Oracle Applications Object Library Technical Reference Manual* contains database diagrams and a detailed description of Oracle Applications System Administration and related applications database tables, forms, reports, and programs. This information helps you convert data from your existing applications, integrate Oracle Applications System Administration with non–Oracle applications, and write custom reports for Application Object Library.

You can order a technical reference manual for any product you have licensed. Technical reference manuals are available in paper format only.

Other Information

Training

Oracle Education offers a complete set of training courses to help you and your staff master Oracle Applications. We can help you develop a training plan that provides thorough training for both your project team and your end users. We will work with you to organize courses appropriate to your job or area of responsibility.

Training professionals can show you how to plan your training throughout the implementation process so that the right amount of information is delivered to key people when they need it the most. You can attend courses at any one of our many Educational Centers, or you can arrange for our trainers to teach at your facility. In addition, we can tailor standard courses or develop custom courses to meet your needs.

Support

From on–site support to central support, our team of experienced professionals provides the help and information you need to keep Applications working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle server, and your hardware and software environment.

About Oracle

Oracle develops and markets an integrated line of software products for database management, applications development, decision support, and office automation, as well as a complete family of financial, manufacturing, and human resource applications.

Oracle products are available for mainframes, minicomputers, personal computers, network computers**,** and personal digital assistants, allowing organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle offers its products, along with related consulting, education, and support services, in over 140 countries around the world. Oracle Corporation is the world's leading supplier of software for information management, and is the world's second largest software company.

Thank You

Thank you for using Oracle Applications and this user's guide.

We value your comments and feedback. At the end of this manual is a Reader's Comment Form you can use to explain what you like or dislike about this user's guide. Mail your comments to the following address or call us directly at (650) 506–7000.

Oracle Applications Documentation Manager
Oracle Corporation
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Or, send electronic mail to **appsdoc@us.oracle.com**.

CHAPTER

1 What Is System Administration?

This chapter briefly describes the job of an Oracle Applications System Administrator, and contrasts it with the job of an Oracle Database Administrator.

What Is System Administration?

A System Administrator is a person responsible for controlling access to Oracle Applications and assuring smooth ongoing operation. Each site where Oracle Applications is installed needs a system administrator to perform tasks such as:

- Managing and controlling security. Decide which users have access to each application, and within an application, which forms, functions, and reports a user can access.
- Setting up new users. Register new Oracle Applications users, and give them access to only those forms, functions, and reports they need to do their jobs.
- Auditing user activity. Monitor what users are doing and when they do it. Choose who to audit and what type of data to audit.
- Setting user profiles. A user profile is a set of changeable options that affects the way Oracle Applications look and behave. A System Administrator can set user profile values at the site, application, responsibility, and user levels.
- Managing concurrent processing. Concurrent Processing is an Oracle Applications facility that lets long–running, data–intensive tasks run simultaneously with online operations, taking full advantage of multitasking and parallel processing. A System Administrator can monitor and control concurrent processing using a few simple forms.

System vs. Database Administrator

You can think of Oracle Applications as having two sides: a front end that users see and work with, and a back end where data manipulation is performed.

The natural division between user applications and the underlying database structures results in two separate job functions: system administrator, and database administrator.

An Oracle Applications System Administrator administers the user interface or applications side of Oracle Applications.

An Oracle Database Administrator (DBA) administers the data that users enter, update, and delete while using Oracle Applications.

CHAPTER

2

Managing Oracle Applications Security

This chapter explains how to secure access to the data and functionality within your Oracle Applications. The key element in Oracle Applications security is the definition of a *responsibility*. A responsibility defines:

- Application database privileges
- An application's functionality that is accessible
- The concurrent programs and reports that are available

As System Administrator you define application users, and assign one or more responsibilities to each user.

This chapter begins with an essay explaining security in Oracle Applications. Afterwards, major topics are explained in greater detail, along with descriptions of the forms you use to implement security in Oracle Applications. Some topics will refer you to other chapters which contain more detailed information, as well as relevant form descriptions.

Overview of Oracle Applications Security

As System Administrator, you define Oracle Applications users, and assign one or more responsibilities to each user.

Defining Application Users

You allow a new user to sign–on to Oracle Applications by defining an *application user.* An application user has a username and a password. You define an initial password, then the first time the application user signs on, they must enter a new (secret) password.

When you define an application user, you assign to the user one or more responsibilities. If you assign only one responsibility, the user, after signing on, immediately enters an application.

If you assign two or more responsibilities, the user, after signing on, sees a window listing available responsibilities.

Responsibilities define Application Privileges

A *responsibility* is a level of authority in Oracle Applications that lets users access only those Oracle Applications functions and data appropriate to their roles in an organization. Each responsibility allows access to:

- A specific application or applications, such as Oracle General Ledger or Oracle Planning.
- A set of books, such as U.S. Operations or German Sales or an organization, such as New York Manufacturing or New York Distribution.
- A restricted list of windows that a user can navigate to; for example, a responsibility may allow certain Oracle Planning users to enter forecast items, but not enter master demand schedule items.
- A restricted list of functions a user can perform. For example, two responsibilities may have access to the same window, but one responsibility's window may have additional function buttons that the other responsibility's window does not have.
- Reports in a specific application; as system administrator, you can assign groups of reports to one or more responsibilities, so the responsibility a user choose determines the reports that can be submitted.

Each user has at least one or more responsibilities and several users can share the same responsibility. A system administrator can assign users

any of the standard responsibilities provided with Oracle Applications, or create new custom responsibilities.

HRMS Security

The Human Resources Management Systems (HRMS) products have an additional feature using Security Groups. For more information, see Setting up Security for Applications Using Some HRMS Windows.

The Human Resources Management Systems (HRMS) products have an additional feature using Security Groups. For more information, see *Customizing, Reporting, and System Administration in Oracle HRMS*.

Defining a Responsibility

When you define a responsibility, you assign to it some or all of the components described below:

Data Group (required)

A Data Group defines the mapping between Oracle Applications products and ORACLE IDs. A Data Group determines which Oracle database accounts a responsibility's forms, concurrent programs, and reports connect to. See: Defining Data Groups: page 4 – 30.

Request Security Group (optional)

A request security group defines the concurrent programs, including requests and request sets, that may be run by an application user under a particular responsibility. See: Defining a Request Security Group: page 2 – 6. See: Organizing Programs into Request Groups: page 4 – 19.

Menu (required)

A menu is a hierarchical arrangement of application functions (forms) that displays in the Navigate window. Menus can also point to non–form functions (subfunctions) that do not display in the Navigate window, but that define the range of application functionality available for a responsibility. Each responsibility is associated with a menu. See: Overview of Function Security: page 2 – 21.

Function and Menu Exclusions (optional)

A responsibility may optionally have function and menu exclusion rules associated with it to restrict the application functionality enabled for that responsibility. See: Overview of Function Security: page 2 – 21.

Additional Notes About Responsibilities

Predefined Responsibilities

All Oracle Applications products are installed with predefined responsibilities. Consult the reference guide for your Oracle Applications product for the names of those predefined responsibilities.

Additionally, instances of the major components that help define a responsibility (data groups, request security groups, menus, and functions) are predefined for Oracle Applications.

Responsibilities and Request Security Groups

When a request group is assigned to a responsibility, it becomes a *request security group*.

From a standard submission form, such as the Submit Requests form, users can run only the reports, concurrent programs, and request sets that are in their responsibility's request security group.

- If you do not include the Submit Requests form on the menu for a responsibility, then you do not need to assign a request security group to the responsibility.
- If a request security group is not assigned to a responsibility, then users working under that responsibility cannot run any reports, request sets, or other concurrent programs from a standard submission form.

Responsibilities and Function Security

Oracle Applications GUI–based architecture aggregates several related business functions into a single form. Parts of an application's functionality may be identified as individual Oracle Applications functions, which can then be secured (i.e., included or excluded from a responsibility).

See: Overview of Function Security: page 2 – 21

Defining a Request Security Group

Beyond this short introduction, request groups and request security groups are discussed in greater detail, as part of a broader range of topics not necessarily limited to application security, in Chapter 7 – Managing Concurrent Programs and Reports.

See:

Organizing Programs into Request Groups: page 4 – 19

Request Groups: page 4 – 59

Using Request Security

You use request security to specify the reports, request sets, and concurrent programs that your users can run from a standard submission form, such as the Submit Requests form.

To set up request security, you define a request group using the Request Groups form. Using the Responsibilities form, you assign the request group to a responsibility. The request group is then referred to as a *request security group*. See: Request Security Groups: page 4 – 19.

You can define a request group to contain single requests, request sets, or *all* the requests and request sets in an application.

If you choose to include all the requests and requests sets in an application, the user has automatic access to any new requests and request sets (without owners) in the future.

A request security group can contain requests and request sets from different applications. If you want to define request security groups that own requests from different applications, please refer to the discussion on Data Groups. See: Defining Data Groups: page 4 – 30.

> **Note:** A *request security group* or *request group* is not the same as a *security group*.

Individual Requests and Request Sets

Reports or concurrent programs that are not included in a request security group on an individual basis, but that do belong to a request set included in a request security group, have the following privileges:

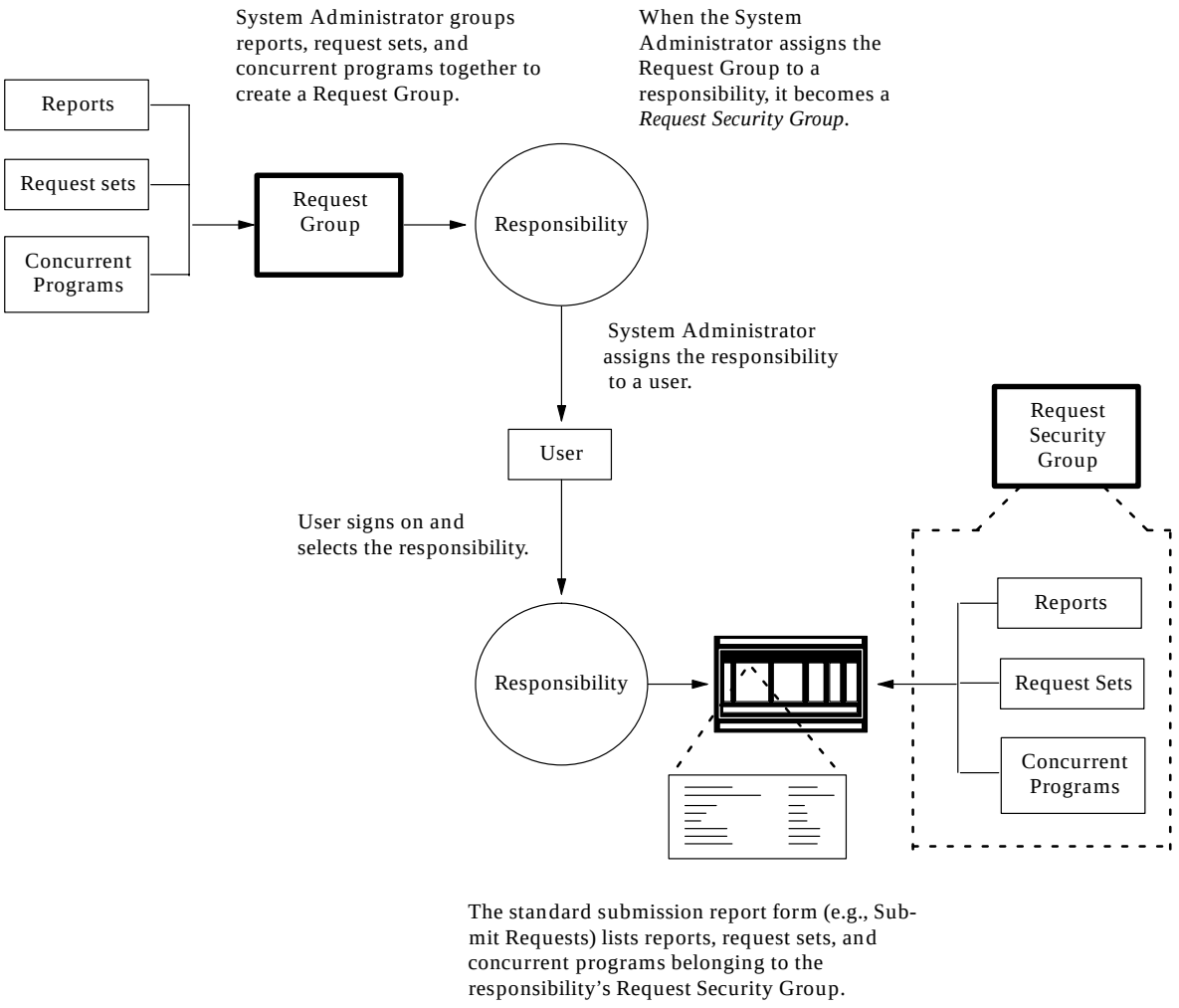
- Users cannot use the Submit Requests form to run single requests and request sets that are not in their responsibility's request security group.
- Users can, however, run request sets that contain requests that are not in their request security group, if the request set is in their request security group.

If you assign a request set, but not the requests in the set, to a request security group, the user:

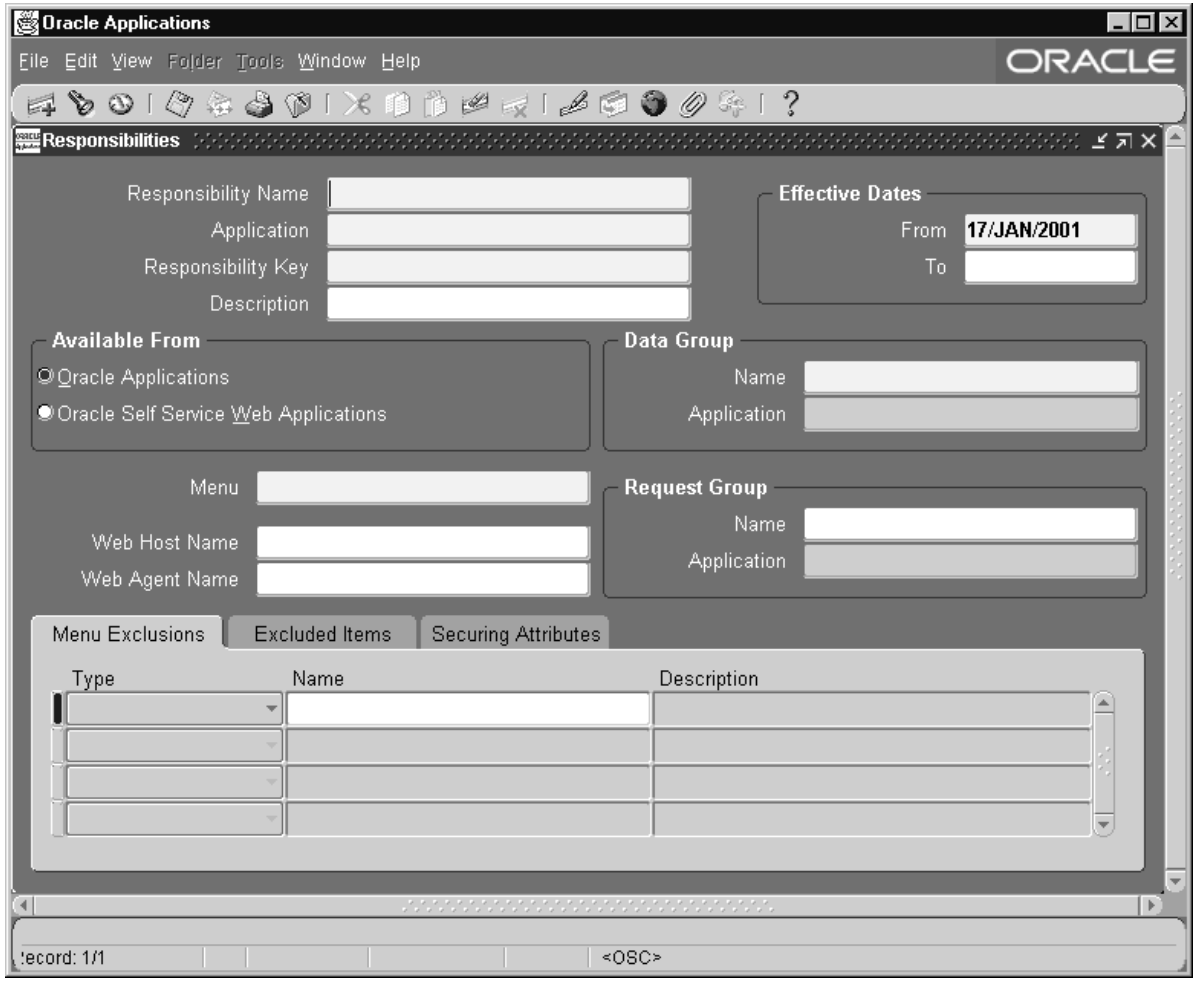
- cannot edit request information in the request set definition
- cannot stop specific requests in the set from running
- can edit the request set by deleting requests from it or adding other requests to it, only if the user is the assigned owner of the request set

The Request Security Groups figure illustrates the relationship between a request security group, application user, and a responsibility.

Request Security Groups


System Administrator groups reports, request sets, and concurrent programs together to create a Request Group.
When the System Administrator assigns the Request Group to a responsibility, it becomes a *Request Security Group*.
Reports
Request sets
Concurrent Programs
Request Group
Responsibility
System Administrator assigns the responsibility to a user.
User
User signs on and selects the responsibility.
Responsibility
Request Security Group
Reports
Request Sets
Concurrent Programs
The standard submission report form (e.g., Submit Requests) lists reports, request sets, and concurrent programs belonging to the responsibility's Request Security Group.

Responsibilities Window



Use this window to define a responsibility. Each application user is assigned at least one responsibility. A responsibility determines if the user accesses Oracle Applications or Oracle Self–Service Web Applications, which applications functions a user can use, which reports and concurrent programs the user can run, and which data those reports and concurrent programs can access.

> **Note:** Responsibilities cannot be deleted. To remove a responsibility from use, set the Effective Date's To field to a past date. You must restart Oracle Applications to see the effect of your change.

See: Overview of Function Security: page 2 – 21

Prerequisites

- Use the Data Groups window to list the ORACLE username your responsibility's concurrent programs reference on an application–by–application basis.
- Use the Request Groups window to define the Request Group you wish to make available with this responsibility.
- Use the Menus window to view the predefined Menu you could choose to assign to this responsibility.

Responsibilities Block

An application name and a responsibility name uniquely identify a responsibility.

Responsibility Name

If you have multiple responsibilities, a pop–up window includes this name after you sign on.

Application

This application name does not prevent the user of this responsibility from accessing other applications' forms and functions if you define the menu to access other applications.

Responsibility Key

This is a unique name for a responsibility that is used by loader programs. Loaders are concurrent programs used to "load" such information as messages, user profiles and user profile values into your Oracle Applications tables. To help ensure that your responsibility key is unique throughout your system, begin each Responsibility Key name with the application short name associated with this responsibility.

Effective Dates

From/To

Enter the start / end dates on which the responsibility becomes active / inactive. The default value for the start date is the current date,

and if you do not enter an end date, the responsibility is valid indefinitely.

You cannot delete a responsibility because its information helps to provide an audit trail. You can deactivate a responsibility at any time by setting the end date to the current date. If you wish to reactivate the responsibility, change the end date to a date after the current date, or clear the end date.

Available From

A responsibility may be associated with only one applications system. Select between Oracle Self–Service Web Applications or Oracle Applications.

Data Group

Name/Application

The data group defines the pairing of application and ORACLE username.

Select the application whose ORACLE username forms connect to when you choose this responsibility. The ORACLE username determines the database tables and table privileges accessible by your responsibility. Transaction managers can only process requests from responsibilities assigned the same data group as the transaction manager.

Menu

The menu whose name you enter must already be defined with Oracle Applications. See: Menus: page 2 – 36.

Web Host Name

If your Web Server resides on a different machine from your database, you must designate the host name (URL) here. Otherwise, the Web Host Name defaults to the current database host server.

Web Agent Name

Enter the PL/SQL Agent Name for the database used by this responsibility. If you do not specify an Agent Name, the responsibility defaults to the agent name current at log–on.

Request Group

Name/Application

If you do not assign a request security group to this responsibility, a user with this responsibility cannot run requests, request sets, or concurrent programs from the Submit Requests window, except for request sets owned by the user. The user can access requests from a Submit Requests window you customize with a request group code through menu parameters.

See:

Overview of Oracle Applications Security: page 2 – 2

Customizing the Submit Requests Window Using Codes: page 4 – 20

Request Groups: page 4 – 59

Menu Exclusions Block

Define function and menu exclusion rules to restrict the application functionality accessible to a responsibility.

Type

Select either Function or Menu as the type of exclusion rule to apply against this responsibility.

- When you exclude a function from a responsibility, all occurrences of that function throughout the responsibility's menu structure are excluded.
- When you exclude a menu, all of its menu entries, that is, all the functions and menus of functions that it selects, are excluded.

Name

Select the name of the function or menu you wish to exclude from this responsibility. The function or menu you specify must already be defined in Oracle Applications.

Self–Service Applications Security

Oracle Self–Service Web Applications uses columns, rows and values in database tables to define what information users can access. Table columns represent ”attributes” that can be assigned to a responsibility as Securing Attributes or Excluded Attributes. These attributes are defined in the Web Application Dictionary.

See Also

Data Security: *(Oracle Self–Service Applications for the Web User's Guide)*

Defining Attributes: *(Oracle Self–Service Applications for the Web User's Guide)*

Excluded Items

Use the List of Values to select valid attributes. You can assign any number of Excluded Attributes to a responsibility.

Securing Attributes

Use the List of Values to select valid attributes. You may assign any number of securing attributes to the responsibility.

Overview of Security Groups

Security Groups are used by Oracle HRMS only.

Security groups allows for data to be partitioned in a single installation. A single installation can use a particular set of configuration data, but store data for multiple clients, where the data is partitioned by security groups. A user with an assignment of one security group can only access data within that security group.

A security group represents a distinct client or business entity. Data that must be distinct for each client in an installation is partitioned by security group. All other data is shared across all security groups.

Security is maintained at the level of responsibility / security group pairs. That is, users are assigned specific responsibilities within each security group. A user may be assigned a global responsibility that is valid in all security groups. When signing on to Oracle Applications, a user, if assigned more than one responsibility, will be asked to choose a responsibility and security group pair. Partitioned data accessed through security group sensitive views will show only data assigned to the current security group.

Defining Security Groups

Every installation will have a single ”Standard” security group seeded in. If no other security groups are created, this single group will be hidden from users when they sign on.

In the Users form, you assign a security group when you assign a responsibility.

See Also

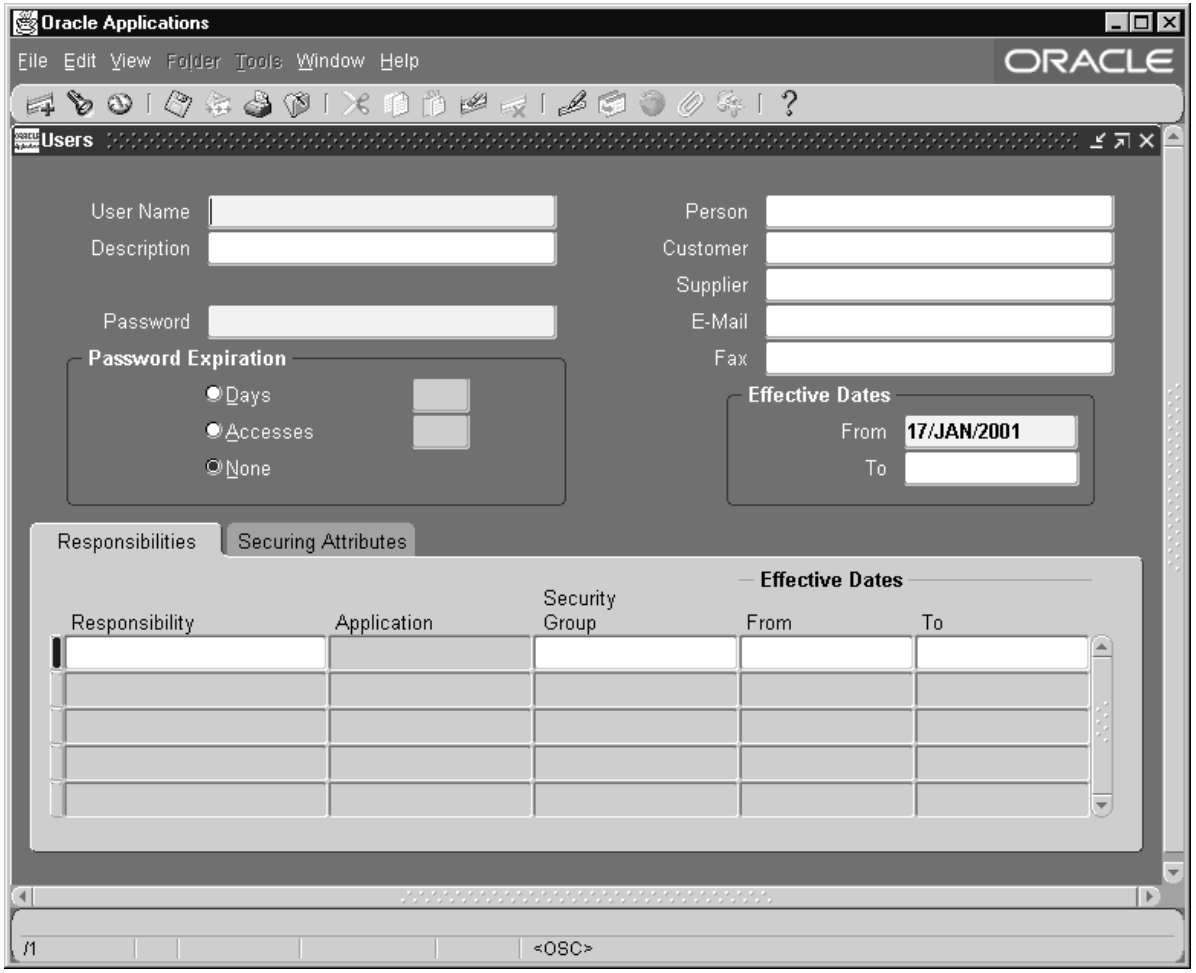
Customizing, Reporting, and System Administration in Oracle HRMS

Security Groups Window

This form is for HRMS security only.

For more information on setting up system administration for the HRMS products, see *Customizing, Reporting, and System Administration in Oracle HRMS*.

Users Window



Use this window to define an application user. An application user is an authorized user of Oracle Applications and / or Oracle Self–Service Applications who is uniquely identified by an application username. Once defined, a new application user can sign on to Oracle Applications and access data through Oracle Applications windows.
See: Overview of Oracle Applications Security: page 2 – 2.

User Name

Enter the name of an application user. An application user enters this username to sign on to Oracle Applications.

- The username must not contain more than one word.
- You should use only alphanumeric characters ('A' through 'Z', and '0' through '9') in the username.

Please note that you must limit your username to the set of characters that your operating system supports for filenames.

Suggestion: We recommend that you define meaningful usernames, such as the employee's first initial followed by their last name. Or, for a group account, you can define the application username so as to indicate the purpose or nature of the group account.

Password

Enter the initial password of an application user. An application user enters this password along with her or his username to sign on to Oracle Applications.

- A password must be at least five characters and can extend up to 100 characters.
- You should use alphanumeric characters ('A' through 'Z', and '0' through '9') in a password. All other characters are invalid.

This window does not display the password you enter. After you enter a password, you must re–enter it to ensure you did not make a typing error.

If the application user already exists and the two entries do not match, the original password is NOT changed, and you navigate automatically to the next field.

If you are defining a new application user and the two entries do not match, you are required to enter the password again. For a new user, you cannot navigate to the next field until the two entries match.

The first time an application user signs on, they must change his or her password. If a user forgets their password, you can reassign a new password in this field.

As System Administrator, you can set an initial password or change an existing password, but you cannot access the user's chosen password.

You can set the minimum length of Oracle Applications user passwords using the profile option Signon Password Length. If this profile option is left unset, the minimum length defaults to 5.

You can use the profile option Signon Password Hard to Guess to set rules for choosing passwords to ensure that they will be "hard to guess." A password is considered hard-to-guess if it follows these rules:

- The password contains at least one letter and at least one number.
- The password does not contain the username.
- The password does not contain repeating characters.

For more information on these profile options, see: Profile Options in Oracle Application Object Library page: A – 2.

Person, Customer, and Supplier

Use these fields to enter the name of an employee (person), customer, or supplier contact. Enter the last name and first name, separated by a comma, of the employee, customer, or supplier who is using this application username and password. Use the List of Values to select a valid name.

E–Mail/Fax

Enter the E–mail address and / or fax number for this user.

Password Expiration

Days

Enter the maximum number of days between password changes. A pop–up window prompts an application user to change her or his password after the maximum number of days you specify has elapsed.

Accesses

Enter the maximum allowed number of sign–ons to Oracle Applications allowed between password changes. A pop–up window prompts an application user to change her or his password after the maximum number of accesses you specify has elapsed.

Suggestion: We recommend that you require application users to make frequent password changes. This reduces the likelihood of unauthorized access to Oracle Applications.

Effective Dates

From/To

The user cannot sign onto Oracle Applications before the start date and after the end date. The default for the start date is the current date. If you do not enter an end date, the username is valid indefinitely.

You cannot delete an application user from Oracle Applications because this information helps to provide an audit trail. You can deactivate an Oracle Applications user at any time by setting the End Date to the current date.

If you wish to reactivate a user, change the End Date to a date after the current date, or clear the End Date field.

Responsibilities Block

Responsibility

Select the name of a responsibility you wish to assign to this application user. A responsibility is uniquely identified by application name and responsibility name.

Security Group

This field is for HRMS security only. See: *Customizing, Reporting, and System Administration in Oracle HRMS*.

From/To

You cannot delete a responsibility because this information helps to provide an audit trail. You can deactivate a user's responsibility at any time by setting the End Date to the current date.

If you wish to reactivate the responsibility for the user, change the End Date to a date after the current date, or clear the End Date.

Securing Attributes

Securing attributes are used by Oracle Self–Service Web Applications to allow rows (records) of data to be visible to specified users or responsibilities based on the specific data (attribute values) contained in the row.

You may assign one or more values for any of the securing attributes assigned to the user. If a securing attribute is assigned to both a responsibility and to a user, but the user does not have a value for that securing attribute, no information is returned for that attribute.

For example, to allow a user in the ADMIN responsibility to see rows containing a CUSTOMER_ID value of 1000, assign the securing attribute of CUSTOMER_ID to the ADMIN responsibility. Then give the user a security attribute CUSTOMER_ID value of 1000.

When the user logs into the Admin responsibility, the only customer data they have access to has a CUSTOMER_ID value of 1000.

Attribute

Select an attribute you want used to determine which records this user can access. You can select from any of the attributes assigned to the user's responsibility.

Value

Enter the value for the attribute you want used to determine which records this user can access.

Overview of Function Security

Function security is the mechanism by which user access to applications functionality is controlled.

Oracle Applications GUI–based architecture aggregates several related business functions into a single form. Because all users should not have access to every business function in a form, Oracle Applications provides the ability to identify pieces of applications logic as *functions.* When part of an application's functionality is identified as a function, it can be secured (i.e., included or excluded from a responsibility).

Application developers register functions when they develop forms. A System Administrator administers function security by creating responsibilities that include or exclude particular functions.

Terms

Function

A function is a part of an application's functionality that is registered under a unique name for the purpose of assigning it to, or excluding it from, a responsibility.

There are two types of functions: form functions, and non–form functions. For clarity, we refer to a form function as a *form*, and a non–form function as a *subfunction*, even though both are just instances of functions in the database.

Form (Form Function)

A form function (*form*) invokes an Oracle Forms form. Form functions have the unique property that you may navigate to them using the Navigate window.

Subfunction (Non–Form Function)

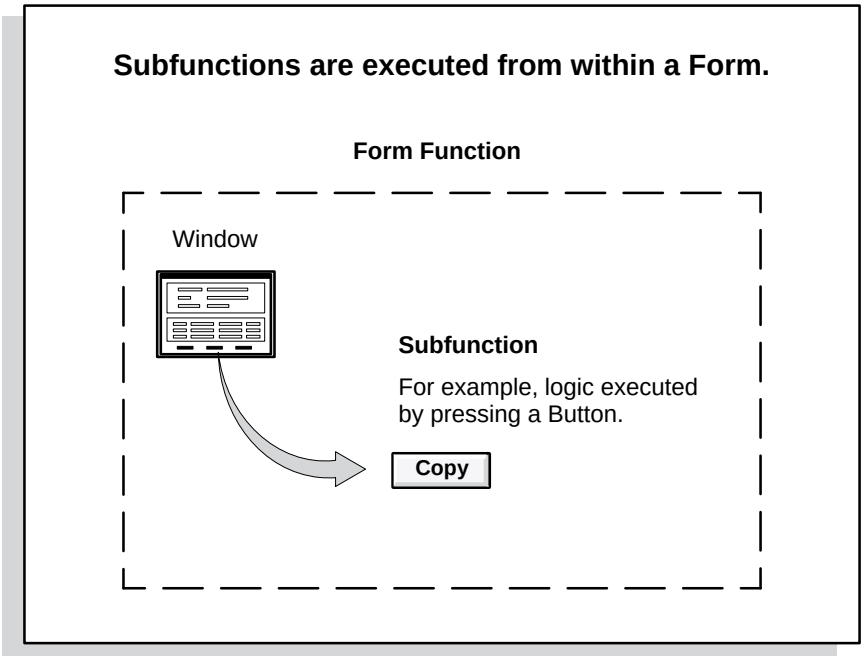
A non–form function (*subfunction*) is a securable subset of a form's functionality: in other words, a function executed from within a form.

A developer can write a form to test the availability of a particular subfunction, and then take some action based on whether the subfunction is available in the current responsibility.

Subfunctions are frequently associated with buttons or other graphical elements on forms. For example, when a subfunction is enabled, the corresponding button is enabled.

However, a subfunction may be tested and executed at any time during a form's operation, and it need not have an explicit user interface impact. For example, if a subfunction corresponds to a form procedure not associated with a graphical element, its availability is not obvious to the form's user.

Figure 2 – 1



Menu

A menu is a hierarchical arrangement of functions and menus of functions. Each responsibility has a menu assigned to it.

Menu Entry

A menu entry is a menu component that identifies a function or a menu of functions. In some cases, both a function and a menu of functions correspond to the same menu entry. For example, both a form and its menu of subfunctions can occupy the same menu entry.

Responsibility

A responsibility defines an application user's current privileges while working with Oracle Applications. When an application user signs on, they select a responsibility that grants certain privileges, specifically:

- The functions that the user may access. Functions are determined by the menu assigned to the responsibility.
- The concurrent programs, such as reports, that the user may run.
- The application database accounts that forms, concurrent programs, and reports connect to.

Forms and Subfunctions

A form is a special class of function that differs from a subfunction in two ways:

- Forms appear in the Navigate window and can be navigated to. Subfunctions do not appear in the Navigate window and cannot be navigated to.
- Forms can exist on their own. Subfunctions can only be called by logic embodied within a form; they cannot exist on their own.

A form as a whole, including all of its program logic, is always designated as a function. Subsets of a form's program logic can optionally be designated as subfunctions if there is a need to secure those subsets.

For example, suppose that a form contains three windows. The entire form is designated as a function that can be secured (included or excluded from a responsibility.) Each of the form's three windows can be also be designated as functions (subfunctions), which means they can be individually secured. Thus, while different responsibilities may include this form, certain of the form's windows may not be accessible from each of those responsibilities, depending on how function security rules are applied.

Functions, Menus, and the Navigate Window

Form functions or *forms* are selected using the Navigate window. The arrangement of form names in the Navigate window is defined by the menu structure assigned to the current responsibility.

The following types of menu entries are not displayed by the Navigate window:

- Subfunctions
- Menus without Entries

- Menu Entries without a Prompt

If none of the entries on a menu are displayed by the Navigate window, the menu itself is not displayed.

How Function Security Works

Developers Register Functions

- Developers can require parts of their Oracle Forms code to look up a unique *function name*, and then take some action based on whether the function is available in the current responsibility.
- Developers register functions. They can also register parameters that pass values to a function. For example, a form may support data entry only when a function parameter is passed to it.

Warning: In general, System Administrators should not modify parameters passed to functions that are predefined as part of the Oracle Applications products. The few cases where function parameters may be modified by a System Administrator are documented in the relevant technical reference manual or product update notes.

- Typically, developers define a menu including all the functions available in an application (i.e., all the forms and their securable subfunctions). For some applications, developers may define additional menus that restrict the application's functionality by omitting specific forms and subfunctions.
- When developers define menus of functions, they typically group the subfunctions of a form on a subfunction menu they associate with the form.

System Administrators Exclude Functions

- Each Oracle Applications product is delivered with one or more predefined menu hierarchies. System Administrators can assign a predefined menu hierarchy to a responsibility. To tailor a responsibility, System Administrators exclude functions or menus of functions from that responsibility using exclusion rules.
- If System Administrators cannot create the desired menu by applying exclusion rules to a predefined menu, they can define a new menu hierarchy. In this case, we recommend that they construct their menu hierarchy using forms and their associated menus of subfunctions. In other words, System Administrators

should leave the developer–defined associations between forms and their menus in tact.

Available Functions Depend on the Current Responsibility

- When a user first selects or changes their responsibility, a list of functions obtained from the responsibility's menu structure is cached in memory.
- Functions a System Administrator has excluded from the current responsibility are marked as unavailable.
- Form functions in the function hierarchy (i.e., menu hierarchy) are displayed in the Navigate window. Available subfunctions are accessed by working with the application's forms.

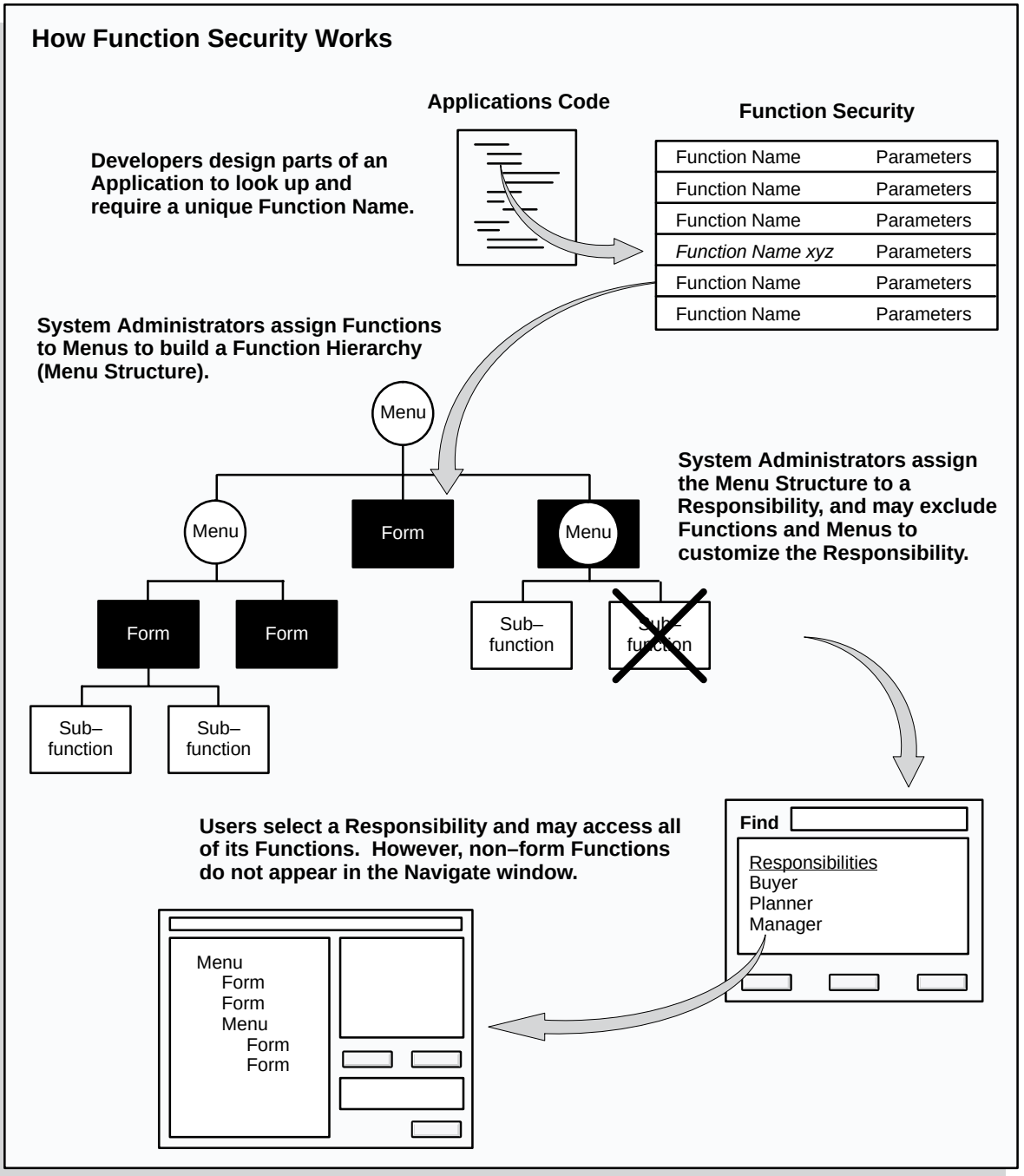
Visibility of Excluded Functions

Some subfunctions are associated with a graphical element, for example, a button, and their exclusion may result in:

- the dimming of the button
- the absence of the button.

Other subfunctions may not correspond to a graphical element, and their exclusion may not be obvious to an end user.

Figure 2 – 2


How Function Security Works
Applications Code
Function Security
Developers design parts of an Application to look up and require a unique Function Name.
Function Name Parameters
Function Name Parameters
Function Name Parameters
Function Name xyz Parameters
Function Name Parameters
Function Name Parameters
System Administrators assign Functions to Menus to build a Function Hierarchy (Menu Structure).
Menu
Menu
Form
Menu
Form
Form
Sub–function
Sub–function
Sub–function
System Administrators assign the Menu Structure to a Responsibility, and may exclude Functions and Menus to customize the Responsibility.
Find
Responsibilities
Buyer
Planner
Manager
Users select a Responsibility and may access all of its Functions. However, non–form Functions do not appear in the Navigate window.
Menu
Form
Form
Menu
Form
Form

Implementing Function Security

A ”full access” responsibility with a menu that includes all the functions in an application is predefined for each Oracle Applications product. Some applications may provide additional predefined responsibilities that include a smaller set of functions (i.e., fewer forms and subfunctions).

As a System Administrator, you can restrict the functionality a responsibility provides by defining rules to exclude specific functions or menus of functions. In fact, we recommend that you use exclusion rules to customize a responsibility in preference to constructing a new menu hierarchy for that responsibility.

For example, suppose you want to customize a responsibility to restrict the functionality of a form included in that responsibility. First, you examine the predefined menus that group the subfunctions associated with that form. Then, using exclusion rules, you can restrict the form’s functionality by excluding certain of the form’s subfunctions from the responsibility.

If you cannot create the responsibility you need by applying exclusion rules, you may build a custom menu for that responsibility using predefined forms (i.e., form functions) and their associated menus of subfunctions. However, we recommend that you do not disassociate a form from its developer–defined menus of subfunctions.

Securing Functions Using Predefined Menus

Use the Responsibilities form to:

- Limit a predefined responsibility’s functionality by excluding menus and functions from it.
- Define a new responsibility and assign a predefined menu to it. Customize the new responsibility’s functionality by excluding menus and functions.
- By assigning the same menu hierarchy to different responsibilities and excluding different functions and menus, you can easily customize an application’s functionality.

Securing Functions Using New Menus

Use the Menus form to define menus pointing to functions that you want to make available to a new responsibility.

- Use forms and their associated menus of subfunctions to define new menus.

Assign the menu structure to a new responsibility using the Responsibilities form.

- For that responsibility, tailor a form's functionality by excluding particular subfunctions.
- By excluding a subfunction executed from within a form, the functionality of that form can be varied from one responsibility to another.
- By applying exclusion rules to the predefined menus of subfunctions associated with a form, you can easily customize a form's functionality.

Excluding Functions from a Responsibility

A system administrator may exclude functions or menus from the menu structure assigned to a responsibility.

- When a menu is excluded, all of its menu entries, that is, all the functions and menus of functions that it selects, are excluded.
- When you exclude a function from a responsibility, all occurrences of that function throughout the responsibility's menu structure are excluded.

Defining a New Menu Structure

When defining a new menu structure:

- Create a logical, hierarchical listing of functions. This allows for easy exclusion of functions when customizing the menu structure for different responsibilities.
- Create a logical, hierarchical menu that guides users to their application forms.

Tasks for Defining a Custom Menu Structure

- Determine the application functionality required for different job responsibilities.
- Identify predefined menus, forms, and form subfunctions to use as entries when defining a new menu. Understand predefined menus by printing Menu Reports using the Submit Requests window.

Suggestion: To simplify your work, use predefined menus for your menu entries. You can exclude individual functions after a menu structure is assigned to a responsibility.

- Plan your menu structure. Sketch out your menu designs.
- Define the lowest–level menus first. A menu must be defined before it can be selected as an entry on another menu.
- Assign menus and functions to higher–level menus.
- Assign menus and functions to a top–level menu (root menu).
- Document your menu structure by printing a Menu Report.

Warning: Start with a blank Menus form (blank screen). Menus cannot be copied. A menu saved under a different name overwrites the original menu (there is no “Save As” feature).

Notes About Defining Menus

Build Menus From Scratch

- Menus cannot be copied. Menu definitions cannot be saved under a different name (i.e., there is no “Save As” capability).
- When a menu name displays in the Menus form, be sure you are in Query mode before overwriting the menu’s name.

Define Menus for Fast and Easy Keyboard Use

- Design menu prompts with unique first letters, so typing the first letter automatically selects the form or menu
- Design the sequence of menu prompts with the most frequently used functions first (i.e., lower sequence numbers).
- Entries cannot be copied from one menu definition to another.

Note when Changing Menu Names or Modifying Entries

- When you change a menu’s name, the menu entries are not affected. The menu’s definition exists under the new name.
- Other menus calling the menu by its old menu name automatically call the same menu by its new (revised) name.
- When defining menus or selecting a ”root” menu to assign to a responsibility, the old menu name is not in a list of values.
- When modifying a predefined menu, all other menus that call that menu display the menu’s modifications.
- For example, if you modify GL_TOP by adding another prompt that calls a form function, all menus that call GL_TOP will display the additional prompt when GL_TOP displays.

Preserving Custom Menus Across Upgrades

Preserve custom menus during upgrades of Oracle Applications by using unique names for your custom menus. For example, you can start the menu's name with the application short name of a custom application. Define a custom application named *Custom General Ledger*, whose application short name is XXCGL. Define your custom menu names to start with XXCGL, for example, XXCGL_MY_MENU.

Remember that the Oracle Applications standard menus may be overwritten with upgrade versions. Therefore, if you attached your custom menu as a submenu to one of the preseeded Oracle Applications menus, recreate the attachment to it following an upgrade. An alternative is to attach a standard Oracle Applications menu as a submenu to your custom menu; the link from your custom menu to the standard menu should survive the upgrade.

Special Function for Oracle HRMS, Oracle Sales and Marketing

In most Oracle Applications products, you can open multiple forms from the Navigator window without closing the form you already have open. However, when you define a new responsibility whose custom menu accesses Oracle Sales and Marketing forms, or Oracle HRMS task flows, you must include the function *Disable Multiform, Multisession* as an entry on the responsibility's top–level menu.

You can identify an Oracle Sales and Marketing form by the OSM prefix contained in the form's function name.

In Oracle HRMS, a task flow is a method of linking windows so that you carry information from one window to the next, in sequence, to complete a task. You can identify an Oracle HRMS form that may be part of a task flow by the PER or PAY prefix in the form's function name. For details on administering Oracle HRMS task flows, and on determining whether a form is part of a task flow, see: Linking Windows in Task Flows, *Oracle Human Resources User's Guide*.

Attention: You should not include the *Disable Multiform, Multisession* function on menus that do not include either Oracle Sales and Marketing or Oracle HRMS forms.

To include the *Disable Multiform, Multisession* function on a menu:

- Add a Function menu entry to the top–level menu (i.e., the menu referenced by your new responsibility).
- Select the function whose User Function Name and Function Name are:

  - Disable Multiform, Multisession
  - FND_FNDSCSGN_DISABLE_MULTIFORM
- Save your changes.

Summary of Function Security

Functions:

- A function is a set of code in Oracle Applications that is executed only if the name of the function is present in a list maintained on a responsibility–by–responsibility basis.
- Functions can be excluded from a responsibility by a System Administrator.
- There are two types of function: a form function or *form*, and a non–form function or *subfunction*. A subfunction represents a securable subset of a form's functionality.

Form Functions:

- A function that invokes a form.
- Form functions appear in the Navigate window and can be navigated to.

Subfunctions:

- A function that is executed from within a form. Subfunctions can only be called by logic embodied within a Form Function.
- Subfunctions do not appear in the Navigate window and cannot be navigated to.

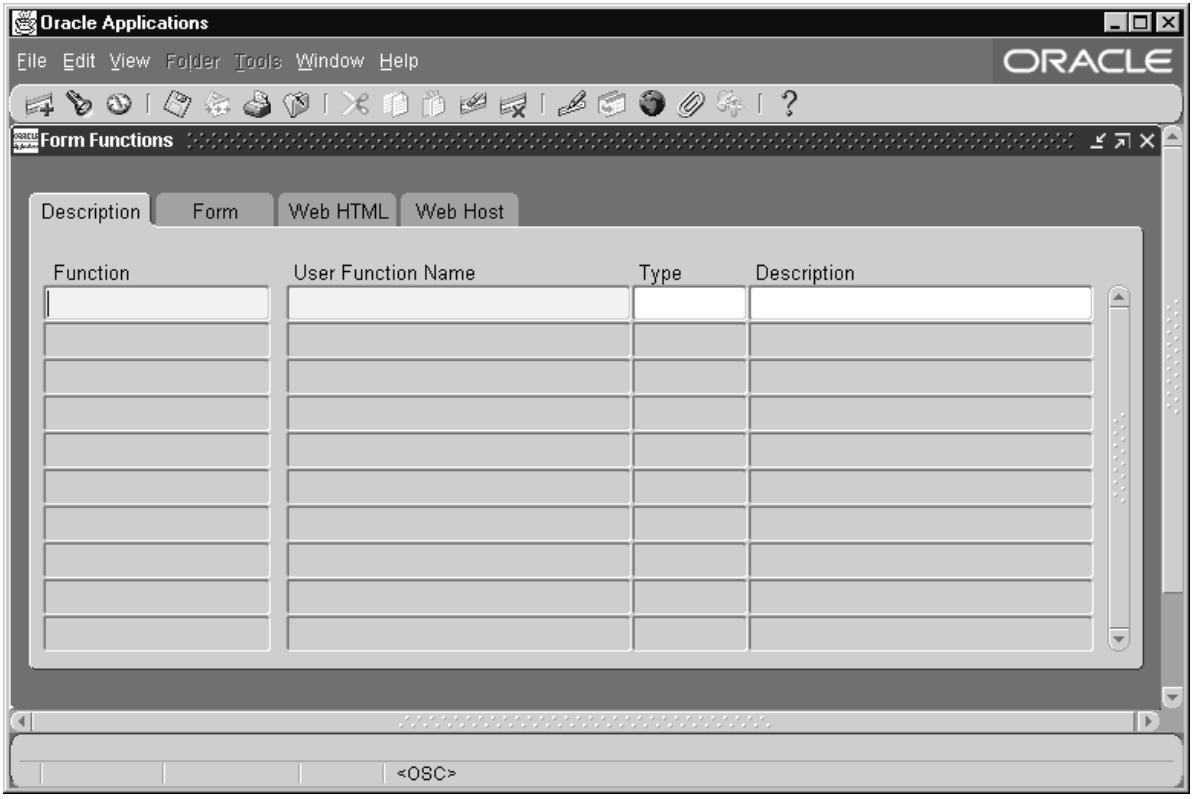
Menus:

- Menus contain menu entries which point to a function, another menu, or a function *and* another menu.
- Menus appear in the Navigate window.
- Menus can be excluded from a responsibility by a System Administrator.

See Also

Function Security Reports: page 2 – 41

Form Functions Window



Define new functions. A function is a part of an application's functionality that is registered under a unique name for the purpose of assigning it to, or excluding it from, a responsibility.

There are two types of functions: form functions, and non–form functions.

For clarity, we refer to a form function as a *form*, and a non–form function as a *subfunction*, even though both are just instances of functions in the database.

Form Functions Block

Function

Users do not see this unique function name. However, you may use this name when calling your function programmatically. You should follow the naming conventions for functions.

Description

User Function Name

Enter a unique name that describes your function. You see this name when assigning functions to menus. This name appears in the Top Ten List of the Navigator window.

Type

Type is a free-form description of the function's use (function type will be validated in a future version of this form). A function's type is passed back when a developer tests the availability of a function. The developer can write code that takes an action based on the function's type.

Standard function types include the following:

FORM	Oracle Applications form functions are registered with a type of FORM. Even if you do not register a form function with a type of FORM, Oracle Applications treats it as a form if you specify a valid Form Name / Application.
SUBFUNCTION	Subfunctions are added to menus (without prompts) to provide security functionality for forms or other functions.
JSP	Functions used for some products in the Oracle Self–Service Web Applications. These are typically JSP functions.
WWW	Functions used for some products in the Oracle Self–Service Web Applications. These are typically PL / SQL functions.
WWK	Functions used for some products in the Oracle Self–Service Web Applications. These are typically PL / SQL functions that open a new window.
WWC	Functions used for some products in the Oracle Self–Service Web Applications.
WWR or WWL	Functions used for some products in the Oracle Self–Service Web Applications.

Form

Form /Application

If you are defining a form function, select the name and application of your form.

Parameters

Enter the parameters you wish to pass to your function. Separate parameters with a space.

For a form function, if you specify the parameter QUERY_ONLY=YES, the form opens in query–only mode. Oracle Application Object Library removes this parameter from the list of form parameters before opening the form in query–only mode.

You can also specify a differnt form name to use when searching for help for a form in the appropriate help file. The syntax to use is:

HELP_TARGET = *"alternative_form_name"*

Your form name overrides the name of the form. See: Help Targets in Oracle Applications: page 7 – 10.

Some Oracle Applications forms are coded to accept particular form parameters. For example, the Submit Requests form accepts a TITLE parameter you can use to change the Submit Requests window title. The syntax you should use is:

TITLE="*appl_short_name*:*message_name*"

where *appl_shortname*:*message_name* is the name of a Message Dictionary message. See: Customizing the Submit Requests Window using Codes: page 4 – 20.

Warning: In general, System Administrators should not modify parameters passed to functions that are predefined as part of the Oracle Applications products. The few cases where function parameters may be modified by a System Administrator are documented in the relevant technical reference manual or product update notes.

Web HTML and Web Host

The fields in the Web HTML and Web Host are only required if your function will be accessed from Oracle Self–Service Web Applications. You do not need to enter any of these fields for functions based on Oracle Forms Developer forms.

HTML Call

The last section of your function URL is the HTML Call. The HTML Call is used to activate your function. The function may be either a static web page or a procedure.

For functions used with Mobile Application Server, enter the full name of your your java class file, including <package name>.<class name>.

The class name and package name are case sensitive. Mobile Application Server will try to load this class from the classpath as it is. For example, '`oracle.apps.mwa.demo.hello.HelloWorld`'.

Secured

Secured is only required when your function is accessed by Oracle Workflow. Checking Secured enables recipients of a workflow E–Mail notification to respond using E–Mail.

Encrypt Parameters

Checking Encrypt Parameters adds a layer of security to your function to ensure that a user cannot access your function by altering the URL in their browser window. You must define Encryption Parameters when you define your function to take advantage of this feature.

Host Name

The URL (universal resource locator) or address required for your function consists of three sections: the Host Name, Agent Name, and the HTML Call. The Host name is the IP address or alias of the machine where the Webserver is running.

Agent Name

The second section of your function URL is the Oracle Web Agent. The Oracle Web Agent determines which database is used when running your function. Defaults to the last agent used.

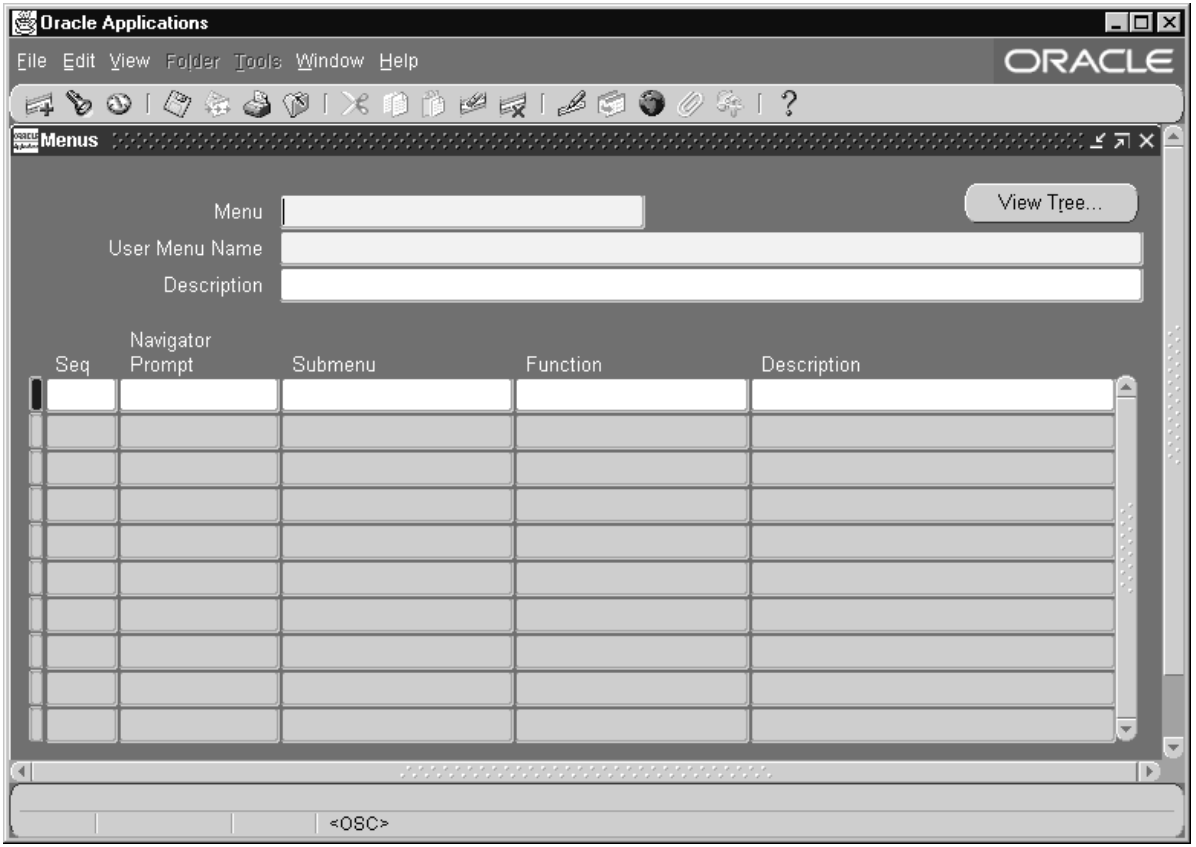
Icon

Enter the name of the icon used for this function.

Regions

The fields on this page are for future use.

Menus Window



Define a new menu or modify an existing menu.

A menu is a hierarchical arrangement of functions and menus of functions. Each responsibility has a menu assigned to it.

A ”full access” responsibility with a menu that includes all the functions in an application is predefined for each Oracle Applications product. As a System Administrator, you can restrict the functionality a responsibility provides by defining rules to exclude specific functions or menus of functions. In fact, we recommend that you use exclusion rules to customize a responsibility in preference to constructing a new menu hierarchy for that responsibility.

If you cannot create the responsibility you need by applying exclusion rules, you may build a custom menu for that responsibility using predefined forms (i.e., form functions) and their associated menus of

subfunctions. However, we recommend that you do not disassociate a form from its developer–defined menus of subfunctions.

Prerequisites

- Register your application with Oracle Application Object Library using the Applications window.
- Define any menus that you intend to call from your menu. Define the lowest–level submenus first. A submenu must be defined before it can be called by another menu.

Suggestion: By calling submenus from your menu, you can group related windows together under a single heading on your menu. You can reuse your menu on other menus.

Menus Block

Menu entries detail the options available from your menu.

Menu

Choose a name that describes the purpose of the menu. Users do not see this menu name.

View Tree...

Once you have defined a menu, you can see its hierarchical structure using the ”View Tree...” button. See: Menu Viewer 2 – 39

User Menu Name

You use the user menu name when a responsibility calls a menu or when one menu calls another.

Menu Entries Block

Sequence

Enter a sequence number to specify where a menu entry appears relative to other menu entries in a menu. The default value for this field is the next whole sequence number.

A menu entry with a lower sequence number appears before a menu entry with a higher sequence number.

Attention: Use integers only as your sequence numbers.

Attention: If you change sequence numbers or frequently insert and delete menu entries, carefully check the default value. This value may be a duplicate sequence number or an out of sequence number.

Suggestion: You cannot replace a menu entry sequence number with another sequence number that already exists. If you want to add menu entries to a menu entry sequence, carefully renumber your menu entries to a sequence range well outside the sequence range you want, ensuring that you do not use existing sequence numbers.

Once you save this work, you can go back and renumber each entry to have the final sequence number you want.

Navigator Prompt

Enter a user–friendly, intuitive prompt your menu displays for this menu entry. You see this menu prompt in the hierarchy list of the Navigator window.

Suggestion: Enter menu prompts that have unique first letters so that power users can type the first letter of the menu prompt to choose a menu entry.

Submenu

Call another menu and allow your user to select menu entries from that menu.

Function

Call a function you wish to include in the menu. A form function (form) appears in the Navigate window and allows access to that form. Other non–form functions (subfunctions) allow access to a particular subset of form functionality from this menu.

Description

Descriptions appear in a field at the top of the Navigate window when a menu entry is highlighted.

Menu Viewer

The Menu Viewer is a read–only window that provides a hierarchical view of the submenus and functions of a menu, and also lists properties of the menus and functions.

You can launch the viewer from the Menus form by clicking on the ”View Tree...” button. The viewer will appear for the menu specified in the Menus form.

> **Note:** When you are creating or editing a new menu, your changes must be committed to the database before you will be able to see them in the Menu Viewer.

Functionality

Menu Tree

To view the menu tree, click on the plus (+) sign next to the menu. You will see a hierarchical tree with a number of nodes. Each node represents a function or submenu of your main menu.

> **Note:** The menu tree displays the user menu name for the main menu, and displays the prompts from the Menus form for submenus and functions. If no prompt has been specified, then no label will appear for the node.

To print a menu tree, choose **Print** from the File menu.

Node Properties

To view properties of a particular menu or function, highlight the node in the menu tree. The node properties will appear in the Properties pane. You can create a separate Properties page for a node by clicking the ”push pin” button at the top of the Properties pane.

The entry’s sequence number, prompt, and description are shown.

View Options

The View menu provides options on how the viewer displays your menu.

You can specify whether the Node Properties pane, the toolbar, or the status bar are displayed. You can also choose the display style in which you view your menu tree.

Display Styles

There are three styles for viewing your menu tree. You can select one from the View menu or from the buttons on the toolbar.

Vertical	Menu entries are displayed vertically, similar to how they appear in the Navigator window when you log on to Oracle Applications.
Interleaved	Menu entries are displayed horizontally and vertically.
Org–Chart	Menu entries are displayed horizontally as in an organizational chart.

Edit Menu

From the Edit menu you can bring up a Properties window for the node you have highlighted in the menu tree.

> **Note:** You can view the properties for your menu or function here, but you cannot edit them.

You can view and edit your Preferences for the Menu Viewer. You can choose colors for your menu tree pane as well as the text font and size.

Function Security Reports

Use the function security reports to document the structure of your 11i menus. You can use these reports as hardcopy to document your customized menu structures before upgrading your Oracle Applications software.

The function security reports consist of the Function Security Functions Report, the Function Security Menu Report, and the Function Security Navigator Report.

These reports are available through the Function Security Menu Reports request set. For each report, specify the responsibility whose function security you want to review.

Function Security Function Report

Specify a responsibility when submitting the report. The report output lists the functions accessible by the specified responsibility.

The report does not include items excluded by function security rules.

Function Security Menu Report

Specify a responsibility when submitting the report. The report output lists the complete menu of the responsibility, including all submenus and functions.

The report indicates any excluded menu items with the rule that excluded it.

Function Security Navigator Report

Specify a responsibility when submitting the report. The report output lists the menu as it appears in the navigator for the responsibility specified.

This report does not include items excluded by function security rules, or non–form functions that do not appear in the navigator.

Menu Report

This report documents the structure of your character mode menus. Use this report when defining new menus or editing existing menus. You can also use this report as hardcopy to document your customized menu structures before upgrading your Oracle Applications software.

Attention: The Menu Report only details menus created and used with the Oracle Applications running in character mode. Use the Function Security menu reports to detail menus created with Oracle Applications 10SC.

The Menu Report prints:

- a hierarchical listing of the menu entries for the menu you request
- the action each menu entry invokes
- the name of the application that contains the menu
- the name of the action the menu calls

Report Parameters

Main Menus Only

Select Yes or No to indicate whether the menu you want in your report is a main menu. If you choose Yes, only main menus appear as selections in the window for the Menu Name parameter.

Application Name

Choose the name of the application to which the menu you want in your report belongs.

Menu Name

Choose the name of the menu you want in your report.

Report Heading

The report heading contains the menu's application and name.

Column Headings

Prompt

The prompt your menu displays for this menu entry.

Description

The description of this menu entry.

Action Type

The type of action this menu entry invokes when selected. Valid values are:

Menu	Navigate to a submenu.
Function	Navigate to a function

Application

The name of the application associated with the menu or function that your menu calls.

Action

The name of the menu or function.

Users of a Responsibility Report

This report documents who is using a given responsibility. Use this report when defining or editing application users.

Report Parameters

Application Name

Choose the name of the application to which the responsibility you want in your report belongs.

Responsibility Name

Choose the name of the responsibility you want in your report.

Report Heading

The report heading indicates the application name and responsibility for which you requested a report.

Column Headings

User Name

The name of the user who is assigned to the responsibility.

Start Date

The date the responsibility became active for the user.

End Date

The date the responsibility either becomes inactive or became inactive for the user. If no end date appears for a user, then this responsibility is always enabled for the user.

Description

The description of the user who is assigned to the responsibility.

Active Responsibilities Report

This report shows all the responsibilities that are currently active, the users who can currently access each responsibility, and the start and end dates when they can access the responsibility.

Report Parameters

None.

Report Heading

This displays the name of the report, the date and time the report was run, and the page number.

Column Headings

Application Name

The name of the application associated with the responsibility.

Responsibility Name

The name of the currently active responsibility.

User Name

The name of the user who can currently access the responsibility.

Start Date

The date when the user can begin accessing the responsibility.

End Date

The date when the user can no longer access the responsibility. See: Overview of Oracle Applications Security: page 2 – 2.

Active Users Report

This report shows all the usernames that are both currently active and have at least one active responsibility. It also displays all the responsibilities that users can access, and the start and end dates when they can access each responsibility.

Report Parameters

None.

Report Heading

The report heading displays the name of the report, the date that the report was run, and the page number.

Column Headings

User Name

The Oracle Applications name of the currently active user. The start and end dates that you specify in the Users window determine whether a username is currently active.

Application Name

The name of the application associated with the responsibility.

Responsibility Name

The name of the currently active responsibility.

Start Date

The date when the user can begin accessing the responsibility. You can specify a start date when you assign the responsibility to the user in the Responsibilities block of the Users window.

End Date

The date when the user can no longer access the responsibility. You specify an end date when you assign the responsibility to the user in Responsibilities block of the Users window.

Reports and Sets by Responsibility Report

This report identifies which reports (and other concurrent programs) and report sets are included in the request security groups available to any given responsibility. Use this report when defining or editing responsibilities.

Report Parameters

If you enter no parameters, the report documents all reports and report sets accessible from each responsibility.

Application Short Name

Choose the application name associated with the responsibility whose available reports and report sets you wish to report on.

If you do not choose an application name, the report documents all reports and report sets accessible from each responsibility.

Responsibility Name

Choose the name of a responsibility whose available reports and report sets you wish to report on. You must enter a value for Application Short Name before entering a value for Responsibility Name.

Report Headings

The report headings list the report parameters you specify, and provide you with general information about the contents of the report.

CHAPTER

3 User and Data Auditing

This chapter explains how to audit your application users and the changes they effect on your application's data.

Overview of User and Data Auditing

There are two types of auditing in Oracle Applications: auditing users, and auditing database row changes.

Auditing User Activity

Auditing users is supported by:

- Sign–On:Audit Level profile option setting
- Audit Reports

See:

Signon Audit Concurrent Requests: page 3 – 10

Signon Audit Forms: page 3 – 12

Signon Audit Responsibilities: page 3 – 15

Signon Audit Unsuccessful Logins: page 3 – 17

Signon Audit Users: page 3 – 19

Sign–On Audit lets you track who signs on to your application and what they do.

Based on the audit level you choose, Sign–On Audit records usernames, dates and times of users accessing the system, as well as what responsibilities, forms, and terminals users are using.

Auditing Database Row Changes

Auditing database row changes is supported by:

- From the **Help** menu, **About This Record** ...
- AuditTrail:Activate profile option setting
- Audit forms – see below.

See:

Reporting on AuditTrail Data: page 3 – 22

Audit Installations: page 3 – 34

Audit Groups: page 3 – 36

Audit Tables: page 3 – 40

Auditing User Activity

Oracle Applications provides a Sign–On Audit feature that allows you to:

- Track what your users are doing and when they do it.
- Choose who to audit and what type of information to audit.
- View quickly online what your users are doing.
- Check the security of your application.

With Sign–On Audit, you can record usernames, terminals, and the dates and times your users access Oracle Applications. Sign–On Audit can also track the responsibilities and forms your users use, as well as the concurrent processes they run.

Major Features

Selective Auditing

Sign–On Audit lets you choose who to audit and what type of user information to track. You can selectively determine what audit information you need, to match your organization's needs.

Monitor Application Users

The Monitor Users form gives you online, real–time information about who is using Oracle Applications and what they are doing.

You can see what users are signed on (application username and operating system login name), what responsibilities, forms, and terminals they are using, how long they have been working on forms, and what ORACLE processes they are using.

Sign–On Audit Reports

Sign–On Audit Reports give you historical, detailed information on what your users do in your application.

You can give search criteria to narrow your search for information.

You can also sort your Sign–On Audit information to create easy–to–read reports.

Setting Up Sign–On Audit

You use the Sign–On:Audit Level user profile option to control who Sign–On Audit tracks and the level at which they are audited.

Use the Monitor Users form to view online what your users are doing.

Use the Submit Reports form to submit Sign–On Audit Reports that give you detailed audit information.

Enabling Sign–On Audit

Use the System Profile Values form to enable Sign–On Audit. Choose the scope of your audit and who to audit by setting the user profile level at the user, responsibility, application, or site profile levels.

Users cannot see nor change this profile option.

After you set or change audit levels, the new audit levels for a user take effect the next time the user signs onto Oracle Applications from the operating system.

Selecting Audit Levels

The Sign–On:Audit Level profile option allows you to select a level at which to audit users who sign on to Oracle Applications. Four audit levels increase in functionality: None, User, Responsibility, and Form.

None is the default value, and means do not audit any users who sign on to Oracle Applications.

Auditing at the User level tracks:

- who signs on to your system
- the times users log on and off
- the terminals in use

Auditing at the Responsibility level performs the User level audit functions and tracks:

- the responsibilities users choose
- how much time users spend using each responsibility

Auditing at the Form level performs the Responsibility level audit functions and tracks:

- the forms users choose
- how long users spend using each form

Factoring in System Overhead

In planning your organization's Sign–On Audit implementation, you should consider the additional system overhead required to precisely

monitor and audit your users as they access Oracle Applications. The more users you audit and the higher the level of auditing, the greater the likelihood of incurring additional system overhead.

Example – Audit Users, Responsibilities, & Forms

One example implementation of Sign–On Audit is to audit all of your users' sign–ons, the responsibilities they select, and the forms they access.

To set up this implementation, set "Sign–On:Audit Level" to:

- Form audit
- At the Site profile level

Example – Audit a specific responsibility, excepting one user

Another example of using Sign–On Audit is for an organization to audit all users of the Personnel Manager responsibility, except for MJONES.

In this example, you do not care to audit the forms the users access or the responsibilities they select.

To set up this implementation, set "Sign–On:Audit Level" to:

- User audit
- At the responsibility profile level for the Personnel Manager responsibility

You also set "Sign–On:Audit Level" to:

- None
- At the user profile level for the application user MJONES

Using the Application Monitor

Use the Monitor Users form to monitor who is using Oracle Applications and what they are doing. You can monitor your users at any time.

The Application Monitor lets you see what users are signed on, what responsibilities, forms, and terminals they are using, how long they have been working on forms, and what ORACLE processes they are using.

Attention: You can only monitor those users that are being audited by Sign–On Audit. The Application Monitor also reflects the level of auditing you define for your users.

About This Record Window

You can display Sign–On Audit data by choosing from the **Help** menu, **About This Record**...

Sign–On Audit can automatically tie in "About This Record" information for records that are inserted or updated by audited users. This additional information appears in the "About This Record" window when you set the Who:Display Type profile option to Extended.

Extended information shows the Oracle Applications session number, the operating system login name, and the terminal that a user you are tracking with Sign–On Audit used to insert or update a row.

As System Administrator, you can use the System Profile Values form to set "Who:Display Type" to let any user, responsibility, application, or site view Extended "About This Record" information.

Who: Display Type Profile Option

The Who: Display Type profile option allows you to choose between two different displays in the About This Record window:

"Normal" displays the:

- name of the user who created the row
- date the user created the row
- name of the table containing the row
- name of the user who last updated the row

"Extended" displays Normal information, plus:

- the user's operating system logon
- the user's terminal identification

Users cannot see nor change this profile option.

This profile option is visible and updatable at all four levels.

Notifying of Unsuccessful Logins

Sign–On Audit can track user logins and provide users with a warning message if anyone has made an unsuccessful attempt to sign on with their application username since their last sign–on. This warning message appears after a user signs on.

You or your users can activate this feature using the Personal Profile Values form by setting the ”Sign–On:Notification” user profile option to Yes.

You do not have to audit the user with Sign–On Audit to use this notification feature.

Sign–On Audit Reports

Use the Submit Requests form to print standard audit reports.

You can generate reports detailing what users are signing on, what responsibilities they are accessing, what forms they are using, what concurrent requests they are submitting, and who is attempting to log on to other users’ accounts.

Oracle Applications provide the following Sign–On Audit reports:

Signon Audit Concurrent Requests: page 3 – 10 (shows who submitted what requests)

Signon Audit Forms: page 3 – 12 (shows who accessed what forms)

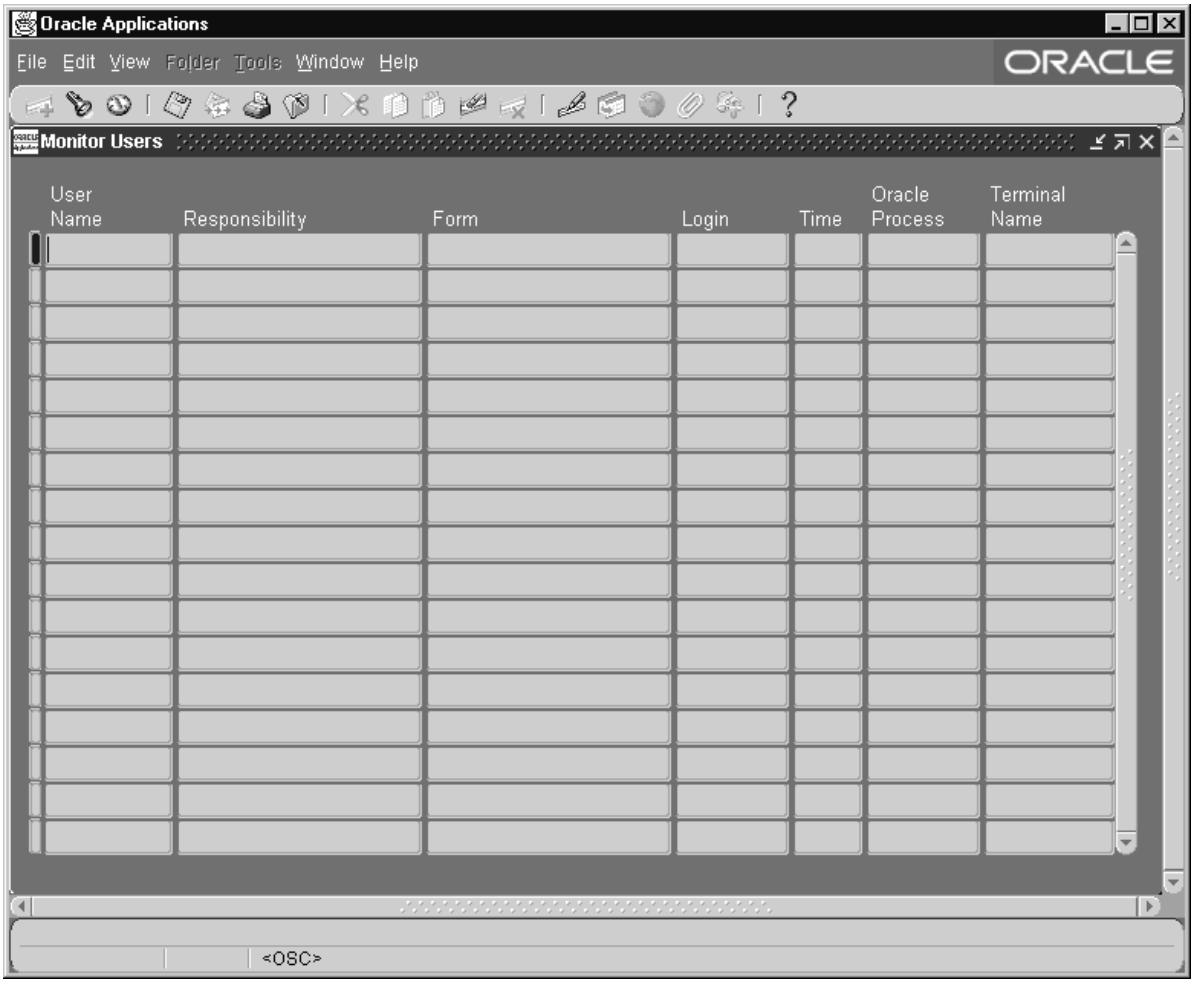
Signon Audit Responsibilities: page 3 – 15 (shows who accessed what responsibilities)

Signon Audit Unsuccessful Logins: page 3 – 17 (shows who unsuccessfully attempted to sign on as another user)

Signon Audit Users: page 3 – 19 (shows who signed on to Oracle Applications)

For each report, you can also specify search criteria that makes your report as brief as you need.

Monitor Users Window



Use this window to monitor what your application users are currently doing. You can see which users are signed on and what responsibilities, forms (windows), and terminals they are using.

You can also see how long they have been logged in and what ORACLE processes they are using.

In addition, you can monitor all users at a site, all users accessing a specific application or a specific responsibility, or you can monitor individual users. You can only monitor those users for whom you have activated Sign–On Audit. See: Overview of User and Data Auditing: page 3 – 2.

Prerequisites

- Select a value for the Sign–On:Audit Level profile option, using the Update System Profile Options window.

Monitor Users Block

Responsibility

The user's responsibility only appears if you have enabled Sign–On Audit at either the Responsibility or Form audit level.

Form

The user's form only appears if you have enabled Sign–On Audit at the Form audit level.

Login

The user's login name.

Time

The length of time the user has been logged on to this application.

ORACLE Process

The ORACLE process of the user.

Terminal Name

The name of the terminal that the user is working on.

Signon Audit Concurrent Requests Report

Use this report to view information about who is requesting what concurrent requests and from which responsibilities and forms.

Attention: You can only generate Signon Audit Concurrent Requests Reports for those users you are auditing.

Report Parameters

Sort By

Sort the information in your report by operating system login name, the requested start date, and/or application username.

Login Name

Search for a specific login name that meets your other search criteria. If you leave this parameter blank, your report contains all login names that meet your other search criteria.

User Name

Search for a specific application username that meets your other search criteria. If you leave this parameter blank, your report contains all application usernames that meet your other search criteria.

From Request Start Time/To Request Start Time

Search for concurrent requests that meet your other search criteria and have requested start times in a specific time period. Use these parameters to specify the start and end of your time period. If you leave these parameters blank, your report contains concurrent requests from any date that also meet your other search criteria to the current date for this parameter.

Report Heading

The report heading displays the search criteria you entered as parameter values.

Column Headings

Login Name

The operating system login name of the user who submitted the concurrent request.

Request ID

The concurrent request ID of the submitted concurrent request. Use the Concurrent Requests form to view completion information for a concurrent request ID.

Concurrent Program Name

The name of the concurrent program the user submitted. Use the Concurrent Programs form to view detail information about a concurrent program.

User Name

The Oracle Applications username of the user who submitted the concurrent request. Use the Users form to view detail information about an application user. See: Users: page 2 – 16.

Responsibility Name

The name of the responsibility from which the user submitted the concurrent request. The responsibility displays only if you audited the user at the responsibility or form Sign–on Audit level. Use the Responsibilities form to view detailed information about a responsibility. See: Responsibilities: page 2 – 9.

Form Name

The name of the form from which the user submitted the concurrent request. The form name displays only if you audited the user at the form Sign–On Audit level.

Requested Start Time

The date and time the concurrent request started running.

Signon Audit Forms Report

Use this report to view who is navigating to what form and when they do it.

Attention: You can only generate a Signon Audit Forms Report for those users you are auditing.

Report Parameters

Sort By

Sort the information in your report by the time users entered or left a form, the name of the form that users access, the operating system login name of the user, the responsibility users access, the terminal that users are on, and/or the application username.

Login Name

Search for information about a specific login name that meets your other search criteria. If you leave this parameter blank, your report contains all login names that meet your other search criteria.

User Name

Search for information about a specific application username that meets your other search criteria. If you leave this parameter blank, your report contains all application usernames that meet your other search criteria.

Terminal Name

Search for information about a specific terminal that meets your other search criteria. If you leave this parameter blank, your report contains all terminal names that meet your other search criteria.

Responsibility Name

Search for information about a specific responsibility that meets your other search criteria. If you leave this parameter blank, your report contains all responsibilities that meet your other search criteria.

Form Name

Search for information about a specific form that meets your other search criteria. If you leave this parameter blank, your report contains all forms that also meet your other search criteria.

From Active Date/To Active Date

Search for information about forms accessed by users within a specific time period and that meet your other search criteria. Use these parameters to specify the start and end of your time period. If you leave these parameters blank, your report contains forms accessed from any date that also meet your other search criteria to the current date for this parameter.

Report Heading

The report heading displays the search criteria you entered as parameter values.

Column Headings

Username

The Oracle Applications username of the user who accessed the form. Use the Users form to view detailed information about an application user. See: Users: page 2 – 16.

Login Name

The operating system login name of the user who accessed the form.

Terminal Name

The operating system ID of the terminal from which the user accessed the form.

Responsibility Name

The name of the responsibility from which the user accessed the form. The responsibility displays only if you audited the user at the responsibility or form Sign–on Audit level. Use the Responsibilities form to view detailed information about a responsibility. See: Responsibilities: page 2 – 9.

Start Active Time/End Active Time

The dates and times when the user accessed / exited the form. The start active time and end active time display only if you audited the user at the form Sign–on Audit level.

Form Name

The name of the form that the user accessed. The form name displays only if you audited the user at the form Sign–on Audit level.

Signon Audit Responsibilities Report

Use this report to view who is selecting what responsibility and when they do it.

Attention: You can only generate Signon Audit Responsibilities Reports for those users you are auditing.

Report Parameters

Sort By

Sort the information in your report by the time users entered or left a responsibility, the operating system login name of the user, the responsibility name, the terminal that users are on, and/or the application username.

Login Name

Search for information about a specific login name that meets your other search criteria. If you leave this parameter blank, your report contains all login names that meet your other search criteria.

User Name

Search for information about a specific application username that meets your other search criteria. If you leave this parameter blank, your report contains all application usernames that meet your other search criteria.

Terminal Name

Search for information about a specific terminal that meets your other search criteria. If you leave this parameter blank, your report contains all terminal names that meet your other search criteria.

Responsibility Name

Search for information about a specific responsibility that meets your other search criteria. If you leave this parameter blank, your report contains all responsibilities that meet your other search criteria.

From Active Date/To Active Date

Search for information about responsibilities accessed by users within a specific time period and that meet your other search criteria. Use these parameters to specify the start and end of your time period. If you leave these parameters blank, your report contains responsibilities accessed from any date that also meet your other search criteria to the current date for this parameter.

Report Heading

The report heading displays the search criteria you entered as parameter values.

Column Headings

Username

The Oracle Applications username of the user who selected the form. Use the Users form to view detail information about an application user. See: Users: page 2 – 16.

Login Name

The operating system login name of the user who selected the responsibility.

Terminal Name

The operating system ID of the terminal from which the user selected the responsibility.

Responsibility Name

The name of the responsibility the user used. The responsibility displays only if you audited the user at the responsibility or form Sign–on Audit level. Use the Responsibilities form to view detailed information about a responsibility. See: Responsibilities: page 2 – 9.

Start Active Time/End Active Time

The dates and times when the user selected / exited the responsibility. The start active time and end active time display only if you audited the user at the responsibility or form Sign–On Audit level.

Signon Audit Unsuccessful Logins Report

Use this report to view who unsuccessfully attempted to sign on to Oracle Applications as another user. An unsuccessful login occurs when a user enters a correct username but an incorrect password.

You can generate Signon Audit Unsuccessful Logins Reports for any users, regardless of whom you are auditing.

Report Parameters

Sort By

Sort the information in your report by the time users attempt to login, operating system login name of the user, the terminal that users are on, and / or the application username.

Login Name

Search for information about a specific login name that meets your other search criteria. If you leave this parameter blank, your report contains all login names that meet your other search criteria.

User Name

Search for information about a specific application username that meets your other search criteria. If you leave this parameter blank, your report contains all application usernames that meet your other search criteria.

Terminal Name

Search for information about a specific terminal that meets your other search criteria to make your report as brief as you need. If you leave this parameter blank, your report contains all terminal names that meet your other search criteria.

From Attempt Date/To Attempt Date

Search for information about unsuccessful logins within a specific time period and that meet your other search criteria. Use these parameters to specify the start and end of your time period. If you leave these parameters blank, your report contains unsuccessful logins from any date that also meet your other search criteria to the current date for this parameter.

Report Heading

The report heading displays the search criteria you entered as parameter values.

Column Headings

Username

The Oracle Applications username of the user who unsuccessfully signed on. Use the Users form to view detail information about an application user. See: Users: page 2 – 16.

Login Name

The operating system login name of the user who unsuccessfully tried to sign on.

Terminal

The operating system ID of the terminal from which the user unsuccessfully tried to sign on.

Attempt Time

The date and time when the user unsuccessfully tried to sign on. See: Monitor Users: page 3 – 8.

Signon Audit Users Report

Use this report to view who signs on and for how long.

Attention: You can only generate Signon Audit Users Reports for those users you are auditing.

Report Parameters

Sort By

Sort the information in your report by the time users start or finish using an application username, the operating system login name of the user, the terminal that users are on, and / or the application username.

Login Name

Search for information about a specific login name that meets your other search criteria to make your report as brief as you need. If you leave this parameter blank, your report contains all login names that meet your other search criteria.

User Name

Search for information about a specific application username that meets your other search criteria to make your report as brief as you need. If you leave this parameter blank, your report contains all application usernames that meet your other search criteria.

Terminal Name

Search for information about a specific terminal that meets your other search criteria to make your report as brief as you need. If you leave this parameter blank, your report contains all terminal names that meet your other search criteria.

From Active Date/To Active Date

You can search for information about users logged into Oracle Applications within a specific time period and that meet your other search criteria. Use these parameters to specify the start and end of your time period. If you leave these parameters blank, your report contains user information from the first date that also meets your other search criteria to the current date.

Report Heading

The report heading displays the search criteria you entered as parameter values.

Column Headings

Session Number

The Oracle Applications session number which uniquely identifies each application user sign–on.

User Name

The Oracle Applications username of the user who signed on. Use the Users form to view detailed information about an application user.
See: Users: page 2 – 16.

Login Name

The operating system login name of the user who signed on.

Terminal Name

The operating system ID of the terminal from which the user signed on.

Start Active Time/End Active Time

The dates and times when the user signed / exited onto Oracle Applications. The start active time and end active time display only if you audited the user at the user Sign–On Audit level.

ORACLE Process

The ORACLE Process ID used during the user's sign–on. Consult your Database Administrator for more information concerning ORACLE Processes.

System Process

The operating system process ID used during the user's sign–on. Consult your operating system administrator for more information concerning your operating system process ID.

Purge Signon Audit Data Program

Use this program to purge Sign–On Audit information created before a specified date.

The following data is deleted:

- Data for who signs on and for how long
- Data for who is selecting what responsibility and when they do it
- Data for who uses which forms in an application and when

Parameters

Audit Date

The Sign–On Audit information creation date. This program will delete all Sign–On Audit information created before this date.

Reporting On AuditTrail Data

AuditTrail lets you keep a history of changes to your important data: what changed, who changed it, and when. With AuditTrail, you can easily determine how any data row or element obtained its current value. You can track information on most types of fields, including character, number and date fields.

When you enter or update data in your forms, you change the database tables underlying those forms. AuditTrail tracks which rows in the database were updated at what time, and which user was logged in using the associated form(s).

AuditTrail

Oracle Applications Releases 10.4 and above provide a mechanism based on Oracle database triggers. AuditTrail stores change information in a ”shadow table” of the audited table. This mechanism saves audit data in an uncompressed but ”sparse” format, and you enable auditing for particular tables and groups of tables (”audit groups”).

Setting Up Release 11i AuditTrail

You can choose to store and retrieve a history of all changes users make on a given table. Auditing is accomplished using *audit groups*, which functionally group tables to be audited. For a table to be audited, it must be included in an enabled audit group.

The steps for setting up AuditTrail include:

Verify Select Privileges on SYS.DBA_TABLES

Have your database administrator grant SELECT privileges on SYS.DBA_TABLES to the APPLSYS account. Normally, this step would already have been done as part of your installation or upgrade.

Define Audit Groups

These are groups of tables and columns, where you do not necessarily need to include all the columns in a given table. You enable auditing for audit groups rather than for individual tables. You would typically group together those tables that belong to the same business process (for example, purchase order tables).

A given table can belong to more than one audit group. If so, the table is audited according to the highest "state" of enabling for any of its groups, where Enabled is the highest, followed by Disable Dump Data, Disable No Growth, and Disable Purge Table, in that order.

You can enable auditing for a maximum of 240 columns for a given table, and you can enable auditing for all types of table columns except LONG, RAW, or LONG RAW. Your audit group must include all columns that make up the primary key for a table; these columns are added to your audit group automatically. Once you have added a column to an audit group, you cannot remove it. See: Audit Groups: page 3 – 36.

Define Audit Installations

You choose the registered Oracle IDs at your site that you want to audit. This allows you to audit across multiple application installations. When a table is added to an audit group, auditing will automatically be enabled for all installations of the table for which audit is enabled. See: Audit Installations: page 3 – 34.

Run the Audit Trail Update Tables Report to Enable Auditing

Your AuditTrail definitions (and auditing) do not take effect until you run the Audit Trail Update Tables Report. If you change any of your definitions later, you must rerun this program. You run the Audit Trail Update Tables Report from the standard submission (Submit Reports) form.

Attention: AuditTrail requires two database connections. If your operating platform does not automatically support two database connections (e.g., VMS or MPE/XL), then add to your environment file the environment variable FDATDB=<database connect string>.

Audit Trail Update Tables Report

This program creates database triggers on the tables in your audit groups for your installations. It also creates shadow tables, one for each audited table, to contain the audit information. If you have changed your audit definitions or disabled auditing for an audit group, the program drops or modifies the auditing triggers and shadow tables appropriately.

The program also builds special views you can use to retrieve your audit data for reporting.

When auditing is enabled for the first time, a shadow table to the audited table is automatically created in the same Oracle ID as the audited table. The shadow table contains only the columns to be audited, and all columns in the shadow table are unconstrained, regardless of their status in the table to be audited.

For example, NULLs are always permitted in the shadow table. All columns in the shadow table have the same data types and sizes as their counterparts in the audited table.

The name of the shadow table is the first 26 characters of the original table name plus the suffix "_A" (Audit).

Shadow Table Columns

All AuditTrail shadow tables contain certain special auditing columns. These columns include:

- AUDIT_USER_NAME (the Application User ID, except when changes are applied using SQL*Plus, in which case it is the Oracle ID)
- AUDIT_TIMESTAMP (the date/time when the insertion occurred)
- AUDIT_TRANSACTION_TYPE (I for Insert, U for Update, D for Delete, L for Last, and C for Current)
- AUDIT_TRUE_NULLS (VARCHAR2(250) column containing a delimited list of column names that have changed from NULL)
- The Primary Key for the table. This is not a special column, but rather all the columns composing the primary key of the audited table. Note that, by convention, all audited columns are stored when a row is deleted. Likewise, an insert results in a row of NULL values in the shadow table. Changes to the primary key are marked as deletes, but new primary key values are inserted also.

For example, suppose you have the following table:

```
SQL> DESCRIBE AUDIT_DEMO

 NAME                                      NULL?    TYPE
 ----------------------------------------- -------- ----
 PRIMARY_KEY                                        NUMBER(5)
 VALUE_ONE                                          VARCHAR2(5)
 VALUE_TWO                                          VARCHAR2(5)
```

```
VALUE_THREE                                       VARCHAR2(5)
```

Its shadow table is as the following (assuming you audit all of your table columns):

```
SQL> DESCRIBE AUDIT_DEMO_A

 NAME                              NULL?    TYPE
 --------------------------------- -------- ----
 AUDIT_TIMESTAMP                   NOT NULL DATE
 AUDIT_TRANSACTION_TYPE            NOT NULL VARCHAR2(1)
 AUDIT_USER_NAME                   NOT NULL VARCHAR2(100)
 AUDIT_TRUE_NULLS                           VARCHAR2(250)
 PRIMARY_KEY                                NUMBER
 VALUE_ONE                                  VARCHAR2(5)
 VALUE_TWO                                  VARCHAR2(5)
 VALUE_THREE                                VARCHAR2(5)
```

Auditing Triggers and Procedures

When auditing is enabled, the automatically–generated database trigger in the ”After” event on the audited table performs the auditing.

This trigger calls a stored procedure to compare each column being audited to see if its value is changing. If so, the procedure saves the previous (old) value to the shadow table.

Auditing creates one row in the shadow table for each audited transaction against the table; thus, a single row in the shadow table represents all old values for all changed columns on that transaction.

The data is not compressed, since a table uses only one byte for a NULL, and AuditTrail represents all unchanged values as NULLs in the shadow table (”sparse” format).

The audit trigger names contain the first 26 characters of the audited table name plus ”_AI”, ”_AU” or ”_AD”, where one of I, U or D indicates Insert, Update or Delete, respectively. Likewise, the audit procedure names use the first 26 characters of the table name plus ”_AIP”, ”_AUP” or ”_ADP”. Your table names must be unique within the first 26 characters.

Views

After a shadow table is created, views onto the shadow table are created to allow easier access to the data in the ”sparse” rows. These

views simplify tasks such as querying a row / column's value on a given date and tracking changes to a row / column over time.

The view name contains the first 26 characters of the audited table name plus "_AC#" or "_AV#" where C or V indicates the type of view and # indicates a number. Due to limitations in creation size, the shadow table columns may need to be broken into multiple views, which are numbered sequentially.

Each view allows slightly different access to the data. One allows the user to reconstruct the value for a row at a given time (_AC), while the other provides simple access to when a value was changed (_AV).

For our example table, the _AV1 and _AC1 views are created as follows:

```
SQL> DESCRIBE AUDIT_DEMO_AV1
 NAME                           NULL?    TYPE
 ------------------------------ -------- ----
 AUDIT_TIMESTAMP                         DATE
 AUDIT_TRANSACTION_TYPE                  VARCHAR2(1)
 AUDIT_USER_NAME                         VARCHAR2(100)
 AUDIT_TRUE_NULLS                        VARCHAR2(250)
 PRIMARY_KEY                             NUMBER
 VALUE_ONE                               VARCHAR2(5)
 VALUE_TWO                               VARCHAR2(5)
 VALUE_THREE                             VARCHAR2(5)

SQL> DESCRIBE AUDIT_DEMO_AC1
 NAME                           NULL?    TYPE
 ------------------------------ -------- ----
 AUDIT_TIMESTAMP                         DATE
 AUDIT_TRANSACTION_TYPE                  VARCHAR2(1)
 AUDIT_USER_NAME                         VARCHAR2(100)
 PRIMARY_KEY                             NUMBER
 VALUE_ONE                               VARCHAR2(5)
 VALUE_TWO                               VARCHAR2(5)
 VALUE_THREE                             VARCHAR2(5)
```

How Data Appears in Tables and Views

Here is an example of how data appears in your original table, your shadow table, and your audit views after a series of changes (starting with an empty AUDIT_DEMO table).

```
SQL> INSERT INTO AUDIT_DEMO VALUES (1,'A','A','A');
SQL> INSERT INTO AUDIT_DEMO VALUES (2,'X','X','X');
```

```
SQL> SELECT PRIMARY_KEY KEY, VALUE_ONE VAL_1,
     VALUE_TWO VAL_2, VALUE_THREE VAL_3 FROM AUDIT_DEMO;

 KEY VAL_1 VAL_2 VAL_3
---- ----- ----- -----
   1 A     A     A
   2 X     X     X

SQL> UPDATE AUDIT_DEMO SET VALUE_ONE ='B'
     WHERE PRIMARY_KEY = 1;

 KEY VAL_1 VAL_2 VAL_3
---- ----- ----- -----
   1 B     A     A
   2 X     X     X

SQL> UPDATE AUDIT_DEMO SET VALUE_TWO ='B'
          WHERE PRIMARY_KEY = 1;

 KEY VAL_1 VAL_2 VAL_3
---- ----- ----- -----
   1 B     B     A
   2 X     X     X

SQL> UPDATE AUDIT_DEMO SET VALUE_THREE ='B'
     WHERE PRIMARY_KEY = 1;
SQL> UPDATE AUDIT_DEMO SET VALUE_ONE ='Y'
     WHERE PRIMARY_KEY = 2;
SQL> UPDATE AUDIT_DEMO SET VALUE_ONE = NULL
     WHERE PRIMARY_KEY = 1;
SQL> UPDATE AUDIT_DEMO SET VALUE_ONE ='C'
     WHERE PRIMARY_KEY = 1;
```

After our two inserts and six updates, the final values in the audited table are:

```
 KEY VAL_1 VAL_2 VAL_3
---- ----- ----- -----
   1 C     B     B
   2 Y     X     X
```

The final values in the corresponding shadow table are as follows. A row in the shadow table represents the state of the audited row *before* the audited row was changed. Note that if a value in a row doesn't change during the transaction, the shadow table records a null for that value in that transaction.

In our example, the first two rows in the shadow table represent the state where there was no data for our two audited rows before they were inserted. The "prior values" are null values for the two insert transaction (type I) rows. Similarly, when we update the first value of row 1 to be the value B instead of A, the shadow table records the value A in its third row:

```
SQL> SELECT TO_CHAR(AUDIT_TIMESTAMP, 'HH24:MI:SS') TIME,
     AUDIT_TRANSACTION_TYPE TYPE, AUDIT_USER_NAME NAME,
     PRIMARY_KEY KEY, VALUE_ONE VAL_1, VALUE_TWO VAL_2,
     VALUE_THREE VAL_3, AUDIT_TRUE_NULLS FROM AUDIT_DEMO_A;

TIME     TYPE NAME    KEY VAL_1 VAL_2 VAL_3 AUDIT_TRUE_NULLS
-------- ---- ------ ---- ----- ----- ----- ----------------
11:08:16 I    FND60     1
11:08:40 I    FND60     2
11:18:40 U    FND60     1 A
11:20:12 U    FND60     1       A
11:21:54 U    FND60     1             A
11:22:15 U    FND60     2 X
14:20:50 U    FND60     1 B
14:21:15 U    FND60     1                   NYNN

8 rows selected.
```

Given the current values of the row in the audited table, you can trace the changes made to the row by backing up through the corresponding rows in the shadow table.

In our example table, we made two insert and six update transactions, so we see those eight transactions in our shadow table. In the last row, the NYNN indicates that the value in the second table column (VALUE_ONE) has changed from an actual null value (the Y) rather

than being an unchanged value (represented by null in the shadow table).

The following two views provide further ways of examining your audited data.

The rows with a transaction type of C in the view indicate the current value of the row when the data was selected (the view is a join between the shadow table and the audited table, so the current value row reflects the current state of the audited table).

The _AC view provides a ”filled–in” version of the data, where unchanged values appear instead of being represented by null values. You can order this view by the primary key (rather than by timestamp), so all rows in the shadow table that correspond to a single audited row appear together, with a secondary ordering by timestamp.

```
SQL> SELECT TO_CHAR(AUDIT_TIMESTAMP, 'HH24:MI:SS') TIME,
     AUDIT_TRANSACTION_TYPE TYPE, AUDIT_USER_NAME NAME,
     PRIMARY_KEY KEY, VALUE_ONE VAL_1, VALUE_TWO VAL_2,
     VALUE_THREE VAL_3 FROM AUDIT_DEMO_AC1
     ORDER BY PRIMARY_KEY, AUDIT_TIMESTAMP;

TIME     TYPE NAME        KEY VAL_1 VAL_2 VAL_3
-------- ---- ---------- ---- ----- ----- -----
11:08:16 I    FND60         1 A     A     A
11:18:40 U    FND60         1 B     A     A
11:20:12 U    FND60         1 B     B     A
11:21:54 U    FND60         1 B     B     B
14:20:50 U    FND60         1       B     B
14:21:15 U    FND60         1 C     B     B
17:53:34 C                  1 C     B     B
11:08:40 I    FND60         2 X     X     X
11:22:15 U    FND60         2 Y     X     X
17:53:34 C                  2 Y     X     X

10 rows selected.
```

Attention: If the changes to your audited table occur faster than one change per second (that is, more frequently than the one–second granularity provided by SYSDATE), you may see ”blurring” of records — more than one record per transaction — in the _AC view because of joins used in this view. However, the shadow table itself remains correct for your transactions, and you can resolve those transactions using the shadow table directly.

The _AV1 view provides a more sparse view of the audit data, ordered by timestamp:

```
SQL> SELECT TO_CHAR(AUDIT_TIMESTAMP, 'HH24:MI:SS') TIME,
     AUDIT_TRANSACTION_TYPE TYPE, AUDIT_USER_NAME NAME,
     PRIMARY_KEY KEY, VALUE_ONE VAL_1, VALUE_TWO VAL_2,
     VALUE_THREE VAL_3, AUDIT_TRUE_NULLS
     FROM AUDIT_DEMO_AV1;

TIME     TYPE NAME    KEY VAL_1 VAL_2 VAL_3 AUDIT_TRUE_NULLS
-------- ---- ------ ---- ----- ----- ----- ----------------
11:08:16 I    FND60     1
11:08:40 I    FND60     2
11:18:40 U    FND60     1 A
11:20:12 U    FND60     1       A
11:21:54 U    FND60     1             A
11:22:15 U    FND60     2 X
14:20:50 U    FND60     1 B
14:21:15 U    FND60     1                   NYNN
17:58:31 C              1 C     B     B
17:58:31 C              2 Y     X     X

10 rows selected.
```

Here is an example of how you might use a view to determine who changed a particular value and when:

```
SQL> SELECT TO_CHAR(AUDIT_TIMESTAMP, 'HH24:MI:SS') TIME,
     AUDIT_TRANSACTION_TYPE TYPE, AUDIT_USER_NAME NAME
     FROM AUDIT_DEMO_AV1
     WHERE PRIMARY_KEY = 1
     AND VALUE_ONE = 'B';

TIME     TYPE NAME
-------- ---- ------
14:20:50 U    FND60
```

Similarly, you might want to determine who changed a value to null and when:

```
SQL> SELECT TO_CHAR(AUDIT_TIMESTAMP, 'HH24:MI:SS') TIME,
     AUDIT_TRANSACTION_TYPE TYPE, AUDIT_USER_NAME NAME
     FROM AUDIT_DEMO_AV1
     WHERE PRIMARY_KEY = 1
     AND VALUE_ONE  IS NULL
     AND SUBSTR(AUDIT_TRUE_NULLS,2,1) = 'Y';

TIME     TYPE NAME
-------- ---- ------
14:21:15 U    FND60
```

Changing Your Audit Tables

You may add columns to the shadow table after auditing has begun on a table. However, the shadow table does not track the column changes that occurred before the column was added. If you add must rerun the Audit Trail Update Tables Report to:

- add the necessary column to the shadow table
- regenerate the audit triggers and procedures for the table so that they now audit the additional column

Reporting on Audit Information

Report on Your Audit Data

You should write audit reports as needed. AuditTrail provides the views of your shadow tables to make audit reporting easier; you can write your reports to use these views.

You may want to create one or more indexes to your shadow table to speed up your reporting. However, such indexes decrease performance during actual auditing of transactions, so you should drop your indexes from the shadow table when you have finished reporting.

Attention: Because the structure of the audited table may change between product versions, AuditTrail does not support upgrading existing shadow tables or audited data. Before an upgrade, you should archive the shadow tables and perform all necessary reporting on the audited data.

Disabling AuditTrail and Archiving Audit Data

You may report on your audits or disable auditing at any time. When you disable auditing, you should do the following procedure:

Stop Auditing New Transactions

Disable auditing using *either* "Disable – Prepare for Archive" or "Disable – Interrupt Audit" and running the Audit Trail Update Tables report.

Disable – Prepare for Archive	Copies the current values of all rows in the audited table into the shadow table, and then disables the auditing triggers. There is no longer any recording of any changes. You should archive the shadow table before you purge it.
Disable – Interrupt Audit	Modifies the triggers to store one "final" row in the shadow table for each row that is modified in the audit table (remember that a given row in the shadow table represents the data in the audited row *before* an update). If a row in the table being audited is changed again (a second time), that change is not recorded. The shadow table grows slowly, until it contains one row for each row in the table being audited. Then there is no longer any recording of any changes.

Archive Your Audit Data

You should archive the information in the shadow tables according to your business needs.

Clean Out the Shadow Table

Before you restart auditing, you should clean out the shadow table. If there were transactions during the time auditing was disabled, and you did not clean out the shadow table, the data in the shadow table would be invalid because it would have a gap where transactions were not recorded. You purge the shadow table(s) by setting the audit group to Disable – Purge Table and running the Audit Trail Update Tables report.

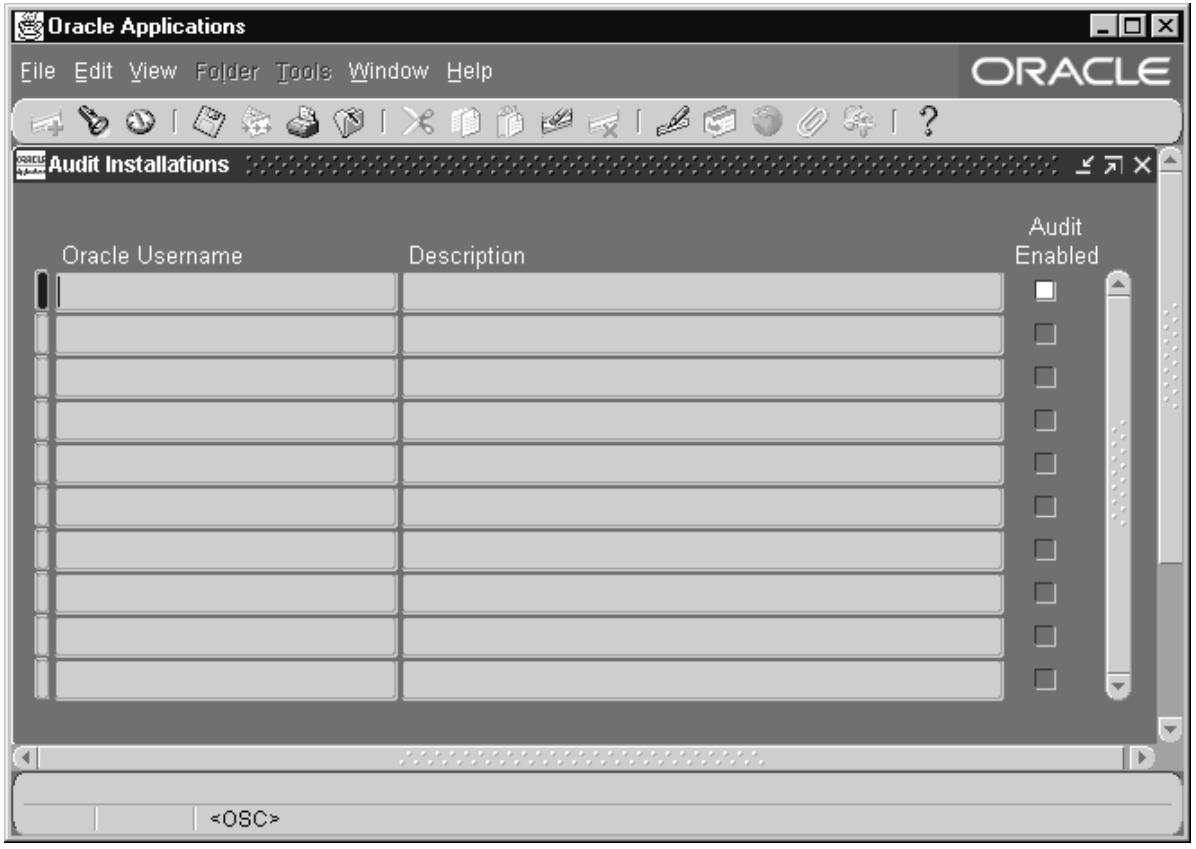
Disable – Purge Table	Drops the auditing triggers and views and deletes all data from the shadow table.

Restart Auditing (If Desired)

You restart auditing by setting the audit group to Enable Requested and running the Audit Trail Update Tables report again.

Attention: If you disable using Disable Purge Table and then reenable auditing for a table, AuditTrail flushes the contents of the shadow table when auditing is reenabled. You should archive any shadow table data that you want to keep before you reenable auditing.

Audit Installations Window



Use this window to enable AuditTrail for an ORACLE username at your installation. An ORACLE username grants access privileges to an application's tables and database objects.

For auditing to take effect, you must also define one or more audit groups and run the Audit Trail Update Tables report. See: Reporting on AuditTrail Data: page 3 – 22.

Prerequisites

- Register your ORACLE username. See: ORACLE Users: page 8 – 12.

Audit Installations Block

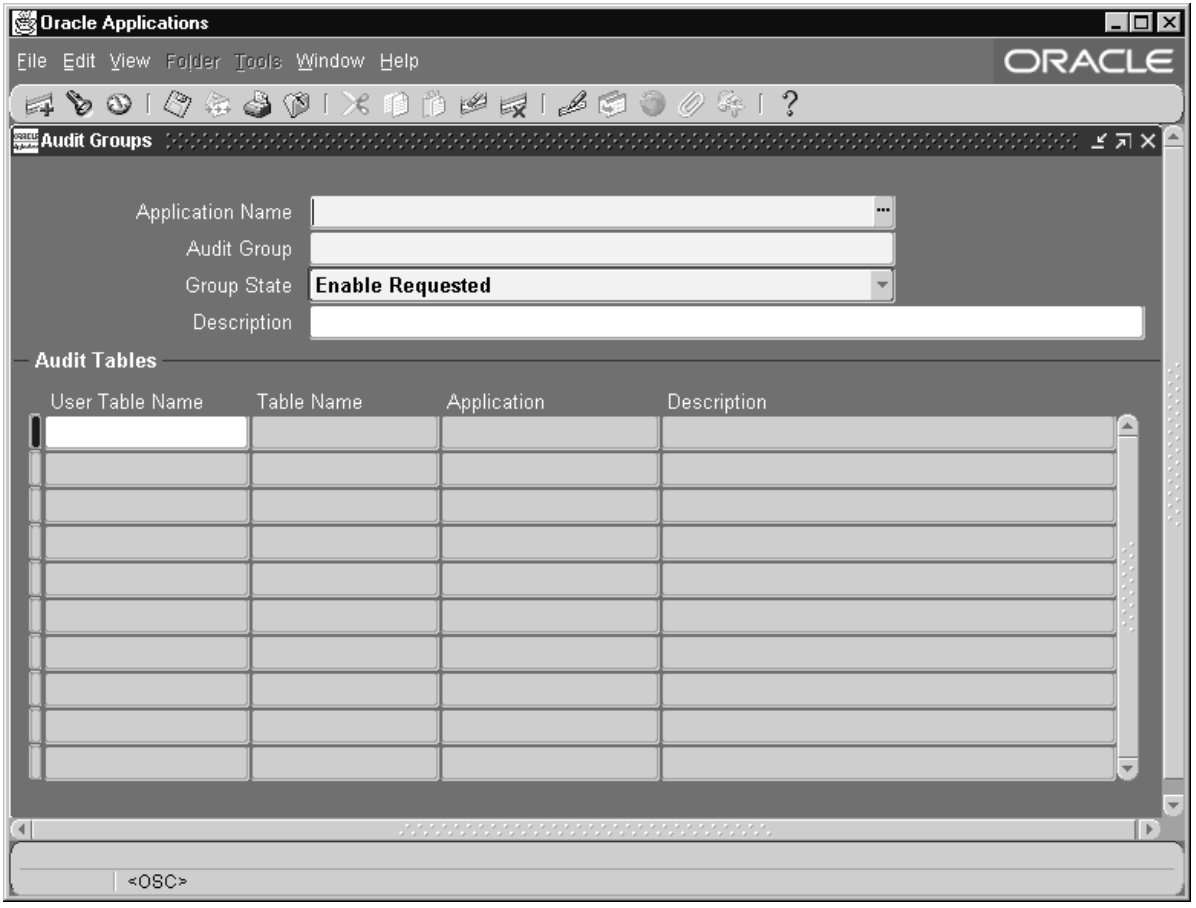
Oracle Username

Select the Oracle username that owns the tables you wish to audit.

Audit Enabled

Check the Audit Enabled check box to enable AuditTrail for an Oracle username. Before auditing takes effect you must define one or more audit groups and run the Audit Trail Update Tables report.

Audit Groups Window



Use this window to select the tables that you wish to audit. You audit a table by defining an audit group, which may consist of one or more tables.

First identify the tables you want to audit, then, using the Audit Tables window, select which columns in each table you wish to audit. Or, select which columns in a particular table you wish to audit (using the Audit Tables window), then define your audit group (using this window).

To enable or disable auditing for the tables in your audit group, run the Audit Trail Update Tables program using the Submit Requests window. If you change the definition or audit state of your group later, you must rerun this program.

Prerequisites

- Define an audit installation using the Audit Installations window.

Attention: Your tables and their primary key information must already be registered and defined for successful auditing. If the table you want to audit is a custom table (not shipped as part of Oracle Applications), you should also perform the following two steps:

- Register your table *and* its primary key columns using Oracle Application Object Library's Tables window (Application Developer Responsibility).
- Run the Register Tables concurrent program from the Submit Requests window.

Audit Groups Block

Identify your audit group and enable or disable auditing for this group.

Application Name

Select the name of an application to associate with your audit group. The combination of application name and group name uniquely identifies your audit group. An audit group may be used to audit tables in additional applications.

Audit Group

Enter the name of the audit group.

Group State

Choose Enable Requested if you are defining a new audit group. When you run the Audit Trail Update Tables report, the concurrent program creates database triggers for the tables in your audit group. Once you have run the program, this field displays Enabled for audit groups where AuditTrail is active.

Attention: All primary key columns in each table in an audit group are automatically selected for auditing, whether or not you use the Audit Tables window to select which columns you wish to audit.

To disable auditing for a group, choose one of the following options and then run the Audit Trail Update Tables report to have your changes take effect.

Disable – Prepare for Archive	Copies the current values of all rows in the audited table into the shadow table, and then disables the auditing triggers. This option requires the most space, since there is at least one row in the shadow table for every row in the audited table (and another row in the shadow table for each transaction on the original row in the audited table). You should then archive the table before you empty the shadow table.
Disable – Interrupt Audit	Modifies the triggers to store one final row in the shadow table as the audited row is modified in the audit table (remember that a given row in the shadow table represents the data in the audited row *before* an update). Inserts or further changes are no longer audited. The shadow table then grows slowly, and the data may be accessed by the existing audit views.
Disable – Purge Table	Drops the auditing triggers and views and deletes all data from the shadow table.

Audit Tables Block

Identify the application tables you want to audit in your audit group**.**

User Table

Select the end user table name (frequently the same name as the table name) for your database table. Once you choose a table, you see its table name and associated application.

Table Name

This field displays the actual name for the table you have selected to include in your audit group.

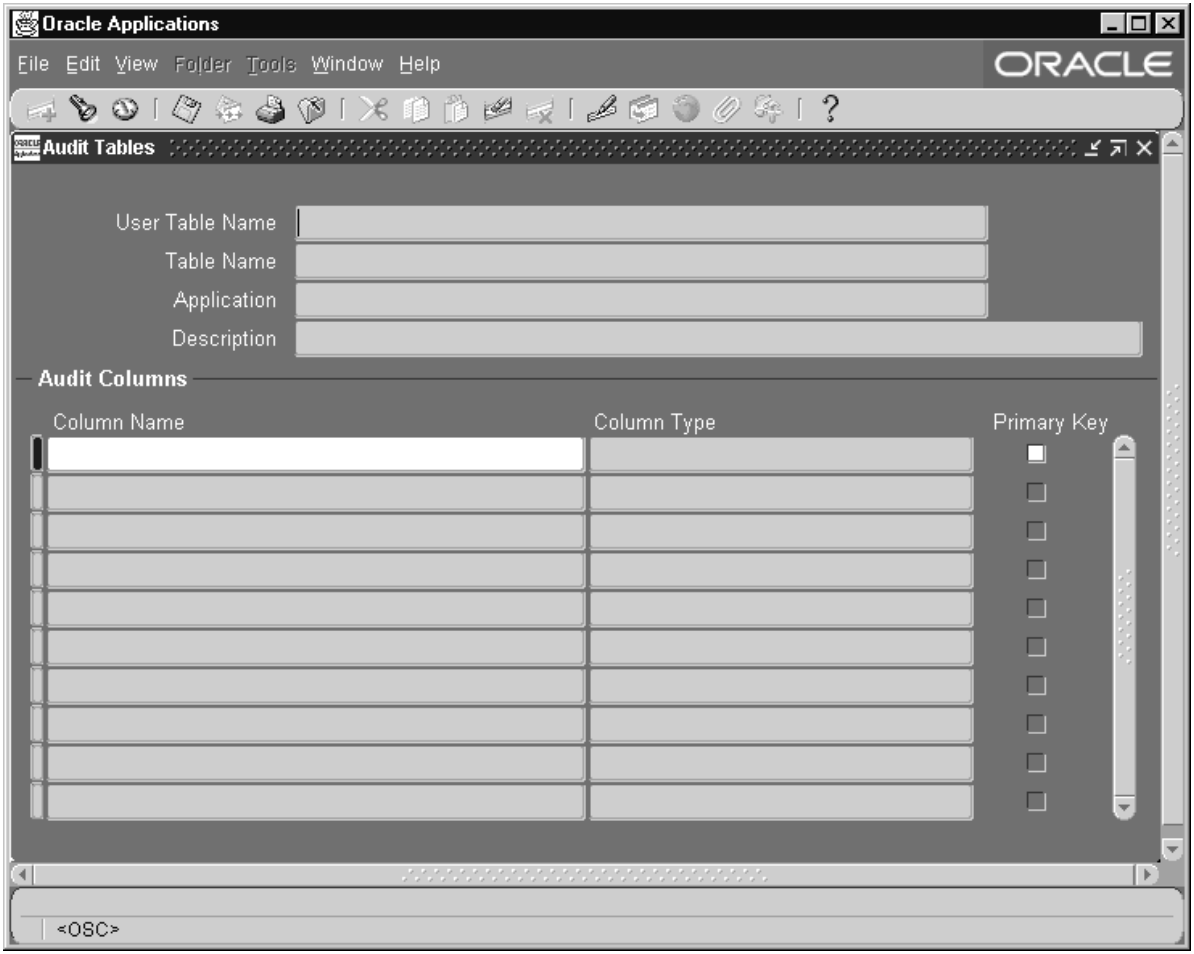
Application

This field displays the application name for the table you have selected to include in your audit group.

Description

This field displays the description for the table you have selected to include in your audit group.

Audit Tables Window



Use this window to select which columns in a table you wish to audit.

First identify the columns in a table you want to audit. Then, using the Audit Groups window, include the table as part of an audit group. Or, you may define your audit group first (using the Audit Groups window), and then select which columns in the table you want to audit (using this window).

To enable or disable auditing for the tables in your audit group (i.e., the columns you have selected here), you must run the Audit Trail Update Tables program using the Submit Requests window. If you select additional columns to audit, or change the definition or audit state of your group later, you must rerun this program.

Prerequisites

- Define an audit installation using the Audit Installations window.

Attention: Your tables and their primary key information must already be registered and defined for successful auditing. If the table you want to audit is a custom table (not shipped as part of Oracle Applications), you should also perform the following two steps:

- Register your table *and* its primary key columns using Oracle Application Object Library's Tables window (Application Developer Responsibility).
- Run the Register Tables concurrent program from the Submit Requests window.

Define Audit Tables Block

Identify the application table you want to audit. Successively selecting *Go – Next Record* from the menu or toolbar displays, in alphabetical order, the name of each application table registered at your installation site.

User Table Name

Select the end user table name (frequently the same name as the table name) for your database table. Once you choose a table, you see its table name and associated application.

Table Name

This field displays the actual name for the table you have selected to include in your audit group.

Application

This field displays the application name for the table you have selected to include in your audit group.

Audit Columns Block

Select the columns you want to audit. Successively selecting *Go – Next Record* from the menu or toolbar displays, in alphabetical order, the name of each application table registered at your installation site.

- You cannot delete a column from auditing once it has been selected.
- You may add additional columns to be audited.
- Each time you select a column to be audited, that change affects every audit group that includes the table which owns the column.

Column Name

Enter the name of the database column you want to audit. You should not explicitly enter the names of your table's primary key columns, since they are entered automatically, and you will get an error message if you try to save a duplicate column name. You can query to see which columns appear automatically.

Note that once you have chosen a column, you cannot delete it from the audit set, though you may add other columns to the set later.

Once you choose a column, you see its column type and whether it is part of the primary key for this table.

Column Type

This field describes the type of data the column stores, for example, varchar2.

Primary Key

This field displays Yes or No indicating whether the column you are auditing is a primary key column.

Any primary key columns you do not select to audit are automatically included when you save your column selections. For example, if the table you are auditing has two primary key columns, and you choose to audit one of them, the second primary key column is automatically selected when you save your column selections.

CHAPTER

4

Managing Concurrent Programs and Reports

This chapter explains how to manage concurrent programs and organize those programs into groups and sets. This chapter also explains how to modify concurrent program definitions, modify the behavior of parameters the programs refer to, and define incompatibility rules among different programs.

The essays in this chapter are organized under the following topics:

- Overview of concurrent programs and requests
- Organizing programs into Request Sets
- Organizing programs into Request Groups
- Defining program incompatibility rules
- Defining application database connections or Data Groups
- Copying and modifying program definitions

Form descriptions follow at the end of the chapter.

Overview of Concurrent Programs and Requests

A concurrent program is an executable file that runs simultaneously with other concurrent programs and with online operations, fully utilizing your hardware capacity. Typically, a concurrent program is a long–running, data–intensive task, such as posting a journal or generating a report.

Request Groups and Request Sets

Reports and concurrent programs can be assembled into request groups and request sets.

- A *request group* is a collection of reports or concurrent programs. A System Administrator defines report groups in order to control user access to reports and concurrent programs. Only a System Administrator can create a request group.
- *Request sets* define run and print options, and possibly, parameter values, for a collection of reports or concurrent program. End users and System Administrators can define request sets. A System Administrator has request set privileges beyond those of an end user.

Standard Request Submission and Request Groups

Standard Request Submission is an Oracle Applications feature that allows you to select and run all your reports and other concurrent programs from a single, standard form. The standard submission form is called *Submit Request*, although it can be customized to display a different title.

- The reports and concurrent programs that may be selected from the Submit Requests form belong to a *request security group*, which is a request group assigned to a responsibility.
- The reports and concurrent programs that may be selected from a customized Submit Request form belong to a request group that uses a code.

In summary, request groups can be used to control access to reports and concurrent programs in two ways; according to a user's responsibility, or according to a customized standard submission (Submit Request) form. See: Customizing the Submit Request Window using Codes: page 4 – 20.

Additional Information: Running Oracle Applications Reports and Programs in the *Oracle Applications User's Guide*

Limiting Active Requests by User

As System Administrator you can limit the number of requests that may be active (status of Running) for an individual user. This ensures that a user cannot monopolize the request queue. For example, if a user with an Active Request Limit of 5 submits 20 requests, only 5 requests will be run at the same time. The remaining requests will be run when the number of active requests for the user drops below 5. Use the Profile Options window to set the *Concurrent: Active Request Limit* profile. To set a global limit for all users, set this option at the site level. You can then modify limits for individual users by setting this profile option at the User level.

Multilingual Support for Concurrent Requests

Beginning with Release 11*i*, users are able to submit a single concurrent request that will cause a single concurrent program to run multiple times, each time in a different language. Any output that is produced can be routed to different printers based on language. Users can also route completion notifications based on the language of the output.

For example, a user could submit a request for a Print Invoices program that would cause that program to run several times, each time in a different language, with each set of invoices printed on a different printer.

Note: Multilingual requests cannot be run within request sets.

See Also

Oracle Applications User's Guide

Oracle Applications Concepts Guide

Oracle Applications Developer's Guide

Request Submission

A concurrent program can have a Multilingual Support (MLS) function associated with it. This function determines the set of languages over which the concurrent program will run. For example, the developer might associate a function with a Print Invoices program that would cause any request for that program to run in the preferred languages of the customers who have pending invoices. See Concurrent Programs Window: page 4 – 66.

If the concurrent program does not have an MLS function associated with it, then a user can choose when submitting the request the list of languages in which the program should run. The language of the current session is the default language.

If a concurrent program does have an MLS function associated with it, users will not be able to select languages for their requests. The associated MLS function determines the languages in which the request will run.

Runtime Behavior

Multilingual requests behave similarly to request sets. A user submits a single request. When that request runs, it submits a child request for

each language in its list of languages. The parent request remains in the Running / Waiting state until its child requests are completed. If any child request completes with error status, then the parent request completes with error status. If no children complete with error status, but one or more completes with warning status, then the parent completes with warning status. Finally, if all children complete with normal status, then the parent completes with normal status.

MLS Functions

Developers can create an MLS function for concurrent programs. The MLS function determines in which of the installed languages a request should run. For example, an MLS function for a Print Invoices program could require that any request for that program to run only in the preferred languages of the customers who have pending invoices. This restriction saves system resources by assuring that the request does not run in languages for which no output will be produced. This restriction also prevents user error by automatically selecting the appropriate languages for a request.

MLS functions are PL / SQL stored procedures, written to a specific API. When the concurrent manager processes a multilingual request for a concurrent program with an associated MLS function, it calls the MLS function to retrieve a list of languages and submits the appropriate child requests for each language. The concurrent program application short name, the concurrent program short name, and the concurrent request parameters are all available to the MLS function to determine the list of languages that the requesst should be run in.

MLS functions are registered in the Concurrent Program Executable form. A registered MLS function can be assigned to one or more concurrent programs in the Concurrent Programs form.

See Also

Oracle Applications Developer's Guide

Organizing Programs into Request Sets

Request sets are a quick and convenient way to run several reports and concurrent programs with predefined print options and parameter values. Request sets group requests into stages that are submitted by the set. The order in which the stages are submitted is determined by the status of previous stages.

Request sets can also be used by a System Administrator to customize access to reports and concurrent programs. Using request sets, a System Administrator can:

- grant users of a responsibility the ability to run selected reports and concurrent programs that are outside their request security group.
- grant access to requests and other concurrent programs on a user–by–user basis.
- guarantee that reports in the set run with print options and parameter values that cannot be edited by end users.

Note: Multilingual requests cannot be run within request sets.

As System Administrator, you have privileges beyond those of your application users, including a privileged version of the Request Set window. See: Request Set Windows, *Oracle Applications User's Guide.*

Defining Request Sets

You can run the same set of concurrent requests regularly by defining a request set, and then submitting the request set from the Submit Requests form.

As System Administrator, you can include *any* Standard Request Submission report or concurrent program in the request sets you define. When end users define a request set, they can only select from reports and programs that belong to their responsibility's request security group.

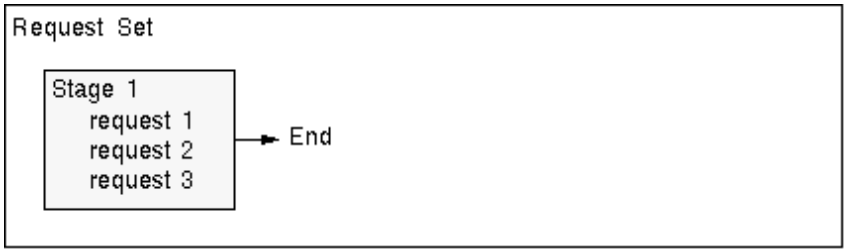
Use the Request Set form to create and edit request sets. See: Request Set Windows, *Oracle Applications User's Guide.*

Request Set Stages

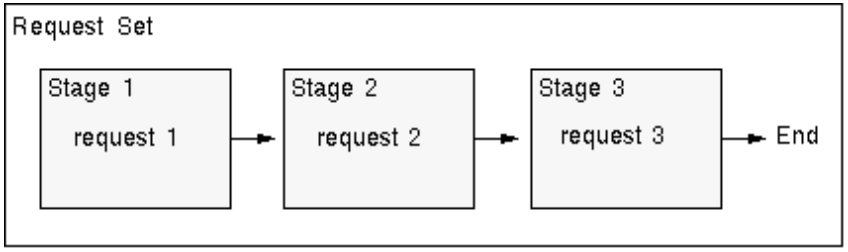
Organizing Request Sets into Stages

Request sets are divided into one or more "stages" which are linked to determine the sequence in which requests are run. Each stage consists

of one or more requests that you want to run in parallel (at the same time in any order). For example, in the simplest request set structure, all requests are assigned to a single stage. This allows all of the requests to run in parallel.

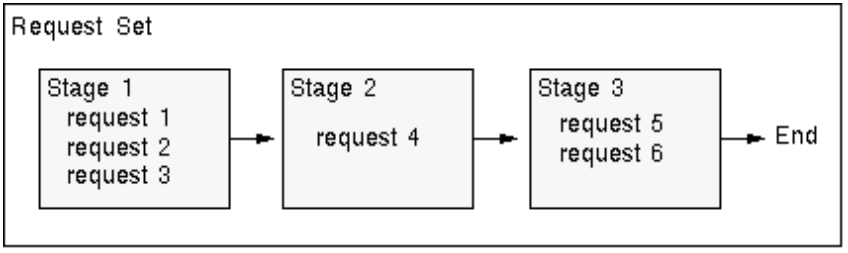


To run requests in sequence, you assign requests to different stages, and then link the stages in the order you want the requests to run.



The concurrent manager allows only one stage in a request set to run at a time. When one stage is complete, the following stage is submitted. A stage is not considered to be complete until all of the requests in the stage are complete.

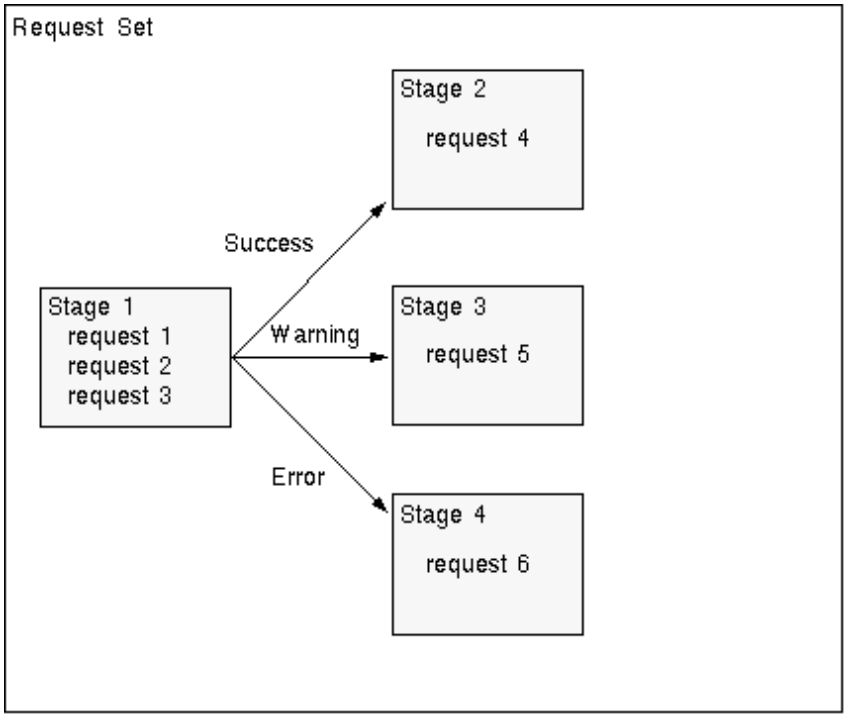
One advantage of using stages is the ability to run several requests in parallel and then move sequentially to the next stage. This allows for a more versatile and efficient request set.



Using Stage Status

Like request sets and concurrent requests, stages can complete with different statuses. Each stage can complete with a status of Success,

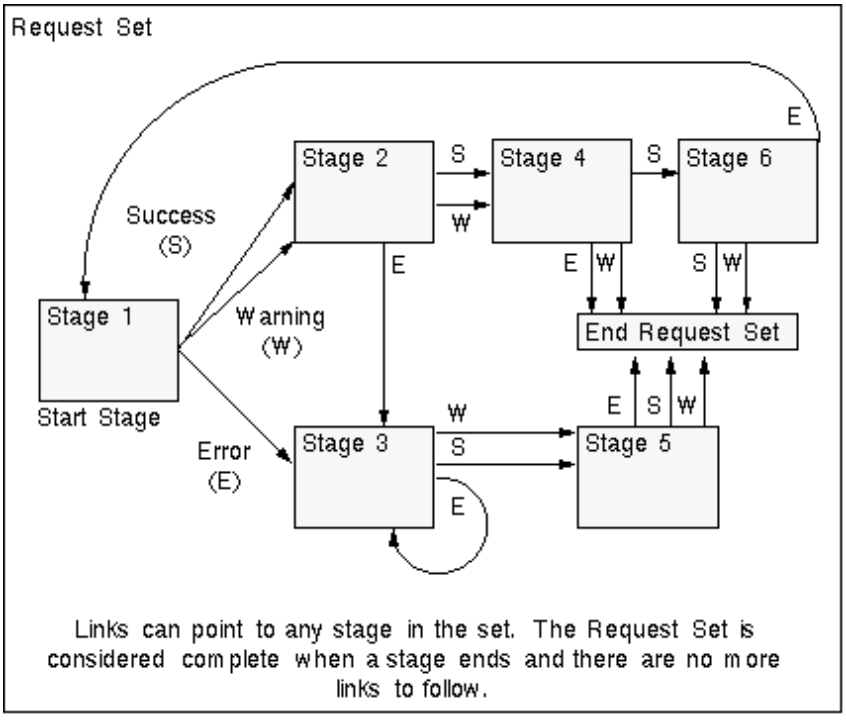
Warning, or Error. You can use these completion statuses to structure your request set, by defining which stage will follow the current stage based on its completion status. For example: a request set always begins with Stage 1. If Stage 1 completes with the status Success, then the Success link is followed, and Stage 2 is submitted. After Stage 2 completes, the set ends. If Stage 1 completes with Warning, then the Warning link is followed, and Stage 3 is submitted. After Stage 3 completes, the set ends. If Stage 1 completes with Error, then the Error link is followed, and Stage 4 is submitted. After Stage 4 completes, the request set ends.



In this example, the stage status is determined using the Standard stage function. The Standard stage function uses the statuses of the requests within the stage to calculate the status for the stage. If all of the requests in a stage complete with a status of Success, then the status for the stage is Success. If one or more requests complete with a status of Error, then the status of the stage is Error. For a stage's status to be Warning, one or more of the requests must have a status of Warning, and no request may have a status of Error.

Linking of Stages

There are no restrictions on linking stages within a request set. Any stage may be linked to any other stage, including itself. Two or more links can point to the same stage. For example, Stage 1 can link to Stage 2 if the completion status of Stage 1 is Success or Warning, and link to Stage 3 if the status is Error.



You determine the end of a request set by not specifying a followup stage for each completion status. You can end a request set after any stage in the request set. When any stage completes with a status that does not link to another stage, the request set ends.

Stage Evaluation Function

The completion status of a stage is determined by a predefined function. The Oracle Applications Standard Stage Evaluation function uses the completion status of the requests it contains. Use this function to determine the status of a stage.

Request Set Completion Status

When a stage completes with a status for which there is no link defined, the request set ends. The completion status for the request set is determined by one of the following methods:

- Using the completion status of the last stage run in the request set. This method is used by default.
- The user can override the default behavior by defining a specific stage within the set to be "critical". If the request set runs a critical stage, then the completion status of the set will be the same as the completion status of the most recently run critical stage. This can be useful if the final stage of the set is a "clean up" stage and is not considered important to the overall status of the set.

Printing Request Sets

On a report–by–report basis, you can select a different printer for each report in a request set. When you define a request set, print options, such as the printer a report is sent to, are saved so you do not have to specify them again when you run the request set.

Attention: If a printer is defined for a concurrent program using the Concurrent Programs form, then that value cannot be updated, either by a user profile option setting, a request set definition, or when running the program or request set.

Note: Defining a printer for a request set concurrent program (e.g., Request Set Payables Aging Reports) in the Concurrent Programs form has no effect; the printer definition is not referred to.

Request Sets as Concurrent Programs

When you define a request set or a stage within a request set that allows incompatibilities, a concurrent program is created to run the requests in your request set according to the instructions you enter.

All concurrent programs that run request sets are titled *Request Set <name of request set>*, and programs that run request set stages are titled *Request Set Stage <name of request set stage>*. In the Concurrent Programs form, to query request set or request set stage concurrent programs on the basis of a program's name, enter the following in the Name field:

- "Request Set" or "Request Set Stage" before the name of the concurrent program
- "Request Set %" or "Request Set Stage %" to perform a query on all request set programs

Request set and request set stage concurrent programs create log files documenting the execution of the request set or stage. Each report or concurrent program within a request set or stage also creates its own log file.

When you run a request set that allows incompatibilities, you submit a request to run the concurrent program that defines the request set. The request set concurrent program submits a request set stage concurrent program. The request set stage concurrent program submits the requests for the individual programs and reports within the stage. A request to run the request set concurrent program or the request set stage concurrent program is a *Parent* request, while the requests to run the programs and reports are *Child* requests.

You can review the status of a request set and the programs it contains using the Concurrent Requests form. The following table displays request phase and status information that pertains to request sets.

Phase	Status	Description
RUNNING	Paused	Parent request pauses for all its Child requests to complete. For example, a request set stage pauses for all reports in the stage to complete.
	Resuming	All requests submitted by the same Parent request have completed running. The Parent request resumes running.

Table 4 – 1 (Page 1 of 1)

Modifying Request Sets

A request set can only be modified by its owner or by a System Administrator. To make modifications, query the request set you want to modify in the Request Set window.

> **Note:** If you wish to retain modifications to request sets provided by your Oracle application during upgrades, you must rename or recreate the request set using a different name before you upgrade. If you modify a predefined request set without changing the name, your modifications are overwritten when you upgrade your Oracle Applications.

Request Sets and Owners

There are significant differences between end user and System Administrator privileges when defining or editing request sets.

End users own the request sets they create

An end user can create a request set by selecting reports, other request sets, or concurrent programs that are part of the report security group assigned to his or her responsibility.

When an end user creates a request set, the user automatically becomes the "owner" of the request set. Ownership is identified by the person's application username.

End users use the Request Set form to create a new request set, or to query and update any request sets they own. End users can only edit request sets they own.

We sometimes refer to a request set that an end user owns as a *private* request set. Private request sets are not automatically added to a request security group. That is, other users cannot access your private request sets using the Submit Requests window unless the System Administrator assigns that request set to a request security group.

Request sets owned by an end user are always available to that user, regardless of what responsibility the user is operating under. However, a standard submission form customized to display only reports in a request group using a code does not display private request sets.

When a user signs on to Oracle Applications, the user can run requests, request sets, and concurrent programs included in:

- their responsibility's request security group
- any request sets they own.

End User Benefits from Private Request Sets

Private request sets offer two main benefits to end users:

1. The request sets that users own are always available to them, regardless of which responsibility they are working under.
2. Users can create as many request sets as they want without adding request set choices to the list of standard submission concurrent programs that other users must select from.

System Administrator Request Set Privileges

As System Administrator, you can:

- create request sets that include *any* reports or concurrent program.
- query and edit *all* request sets using the Request Set form.
- permit and define incompatibility rules for individual request sets. See: Request Set Incompatibilities: page 4 – 14.

After you define a request set, you can assign a user to be its owner if you want the user to be able to run or edit this request set from any

responsibility. Request sets without an owner cannot be edited or updated by any end users. In this way, you can guarantee print options and report parameters for a request set. You can also later edit the request set to remove or change its ownership properties.

Other users can also run a request set if you, as System Administrator, assign the request set to their responsibility's request security group. If you do not assign a request set to a request security group, then only the owner can run the request set. In this way, you can grant access to reports and concurrent programs on a user–by–user basis.

Request Security Groups, Request Sets, and Reports

As System Administrator you can add any request set, including private request sets, to a request security group. This allows you to provide members of a responsibility access to reports and programs outside their request security group.

Request set editing and report viewing privileges are different for reports that belong to a user's request security group than they are for reports that are not in the user's request security group.

User does not own request set

All users can submit request sets that are added to a their request security group even if they contain requests that are not in the request security group. If the user does not own the request set, they:

- cannot edit the request set.
- cannot run an individual report by itself, but can only run the entire request set.

User owns request set

If the user owns the request set, they:

- can add any other requests in their request security group to the request set.
- can delete any request from the request set, regardless of whether that report is in their request security group.
- can update print options or parameters for an individual report in the request set, if the report is in their request security group.
- cannot run an individual report by itself, but can only run the entire request set.

System Administrator Benefits from Request Sets

Request sets offer three main benefits to System Administrators:

1. Request sets offer a means of controlling access to concurrent programs on a user–by–user basis.

By defining a request set, assigning it an owner, and then not assigning the request set to any request security group, the reports and programs in the request set are only available to the owner.

2. By leaving the Owner field blank, System Administrators can create request sets whose individual programs and parameters cannot be edited or updated by end users.

   Only a System Administrator can edit a request set that has no owner.

3. System Administrators can provide members of a responsibility access to reports and programs outside their request security group.

   By defining a request set that contains reports or programs not in a request security group, and assigning that request set to the request security group, users can be granted run, but not edit privileges for selected reports or programs.

Request Set Incompatibilities

A request set is actually a concurrent program that submits requests to run each program in the request set. You can allow incompatibility rules to govern your request set so that the request set does not run at the same time as other reports or concurrent programs. You can also apply these rules to the stages that make up the request set.

Use the Concurrent Programs form to query the request set concurrent program and list those programs, and/or stages you want to define as incompatible with your request set. See: Concurrent Programs: page 4 – 66.

All concurrent programs that run request sets are titled *Request Set <name of request set>*. In the Concurrent Programs form, if you query a request set concurrent program on the basis of the program's name, you must enter in the Name field the words:

"Request Set" before the name of a concurrent program

"Request Set %" to perform a query on all request set programs

When you list a program as incompatible with your request set, the program will not run simultaneously within the same conflict domain as the request set or any of the reports within the set. See: Defining Program Incompatibility Rules: page 4 – 25 .

Sharing Parameters in a Request Set

Parameters, also referred to as arguments, are values that define aspects of a program's execution. You can share a parameter and its entered value among some or all of the requests in your request set.

You identify a parameter as shared by giving it a label. Then, for each concurrent program in your request set, you can assign the same label to a parameter for that program. Among the programs in your request set, the parameters for each program share or accept a common value.

The *first time* you enter a value for any of the shared parameters, that value becomes the shared parameter's value. This is useful, because you only have to enter a value once, rather than for each program in the request set.

Behavior of Shared Parameters

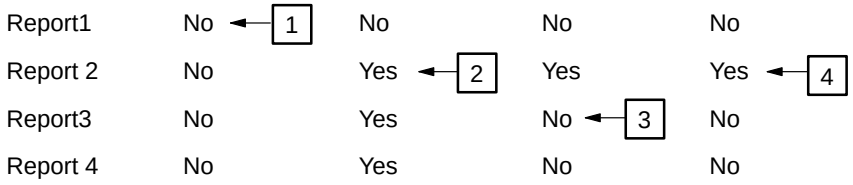
Selecting a value for a shared parameter provides a default for subsequent occurrences of the parameter. Changing a shared parameter's value provides a new default for subsequent occurrences of the parameter, but does not affect prior requests in the set.

Once all the shared parameters contain values, changing the value for a shared parameter has no effect on the other shared parameters.

Attention: Do not hide shared parameters. Do not set shared parameters to Display = No (which prevents modifying the value) or Modify = No. This prevents updates to shared parameters, which are not propagated to other reports in the set, from generating unwanted inconsistencies.

Figure 4 – 1

Example Settings for a Shared Parameter



1 Selecting “No” for the first report defaults “No” in subsequent reports.

2 Selecting “Yes” for the second report, after selecting “No” for the first report, defaults “Yes” in subsequent reports, but does not change the first report (prior reports).

3 Selecting “No” for the third report, after selecting “Yes” for the second report, after selecting “No” for the first report, defaults “No” in subsequent reports, but does not change the first or second reports (prior reports).

4 Once all the reports parameters contain values, updating a shared parameter does not update the values in either subsequent or prior reports. For example, selecting “No” for the first report and navigating through all the parameter pop–up windows provides the “No” value for all of the shared parameters. Selecting “Yes” afterwards for the second report does not update the first, third, or fourth reports.

Example – Shared Parameter Value

We’ve created a request set containing two reports, a *Concurrent Programs Report* and the *Concurrent Program Details Report*. The two reports and their parameters are listed in the table below:

REPORT	PARAMETERS
Concurrent Programs Report	Application Name
Concurrent Program Detail Report	Application Name, Program

Table 4 – 2 (Page 1 of 1)

We identify the parameter Application Name as a parameter shared between the two reports. We want to enter a value only once, that is,

when the Report Parameters window appears for the first report in the set, requiring us to enter Application Name.

To identify a shared parameter, we give it a name, in this example, *applname,* and enter it as a Shared Parameter for each report.

Figure 4 – 2

Report Parameters

Sequence	Prompt	Display	Modify	Shared Parameter	Type	Default Value
1	**Main Menus Only**	**Yes**	**Yes**			
2	**Application Name**	**Yes**	**Yes**	**applname**		
3	**Menu Name**	**Yes**	**Yes**			

Figure 4 – 3

Report Parameters

Sequence	Prompt	Display	Modify	Shared Parameter	Type	Default Value
1	**Application Name**	**Yes**	**Yes**	**applname**		
2	**Responsibility**	**Yes**	**Yes**			
3						

Request Sets Report

This report documents request set definitions, including the set's owner, program incompatibilities, as well as printer and print style information. Use this report when defining or editing request set definitions.

Report Parameters

None.

Report Headings

The report headings provide you with general information about the contents of the report.

Organizing Programs into Request Groups

This essay explains how you can organize your applications programs and reports into request groups. It presents the following topics:

- Request Security Groups
- Using Codes with Request Groups
- Customizing the Submit Requests Window using Codes
- Report Group Responsibilities report

Defining a Request Group

When defining a request group, you can include:

- all the reports and concurrent programs owned by an application
- individual reports and concurrent programs
- request sets, which are collections of reports and concurrent programs that may be selected from an application user's request security groups
- request set stage functions, which are used to calculate the status of stages within a request set.

Two types of Request Group

A request group is used by Oracle Applications at two different levels:

1. Responsibility level

   When a request group is assigned to a **responsibility,** it is referred to as a request security group, and it defines the reports, request sets, and concurrent programs that a user, operating under that responsibility, can select from the Submit Requests Window.

2. Form level

   When a request group is assigned a **code**, that code can be passed as a parameter to the Submit Requests Window. The code helps define the function that calls the Submit Requests Window.

   The list of values for that unique Submit Requests Window lists the reports, request sets, and concurrent programs in the request group.

Request Security Groups

When a request group is assigned to a responsibility, the request group is referred to as a *request security group*. Any user signed on under a

responsibility can run the reports and concurrent programs contained in their responsibility's request security group.

The Submit Requests standard submission form displays a list of all the reports and programs in the current responsibility's request security group.

Using Codes with Request Groups

Normally, when a menu calls the standard request submission form, that form can list the reports and concurrent programs contained in the report security group for the current responsibility.

Alternatively, you can assign a code to a request group so that a customized standard submission form only displays a list of concurrent programs contained in that particular request group. A request group code is simply an argument that is passed from a menu to a customized standard submission form. To summarize:

- Request group codes provide a form–based method of controlling user access to concurrent programs and reports.
- A code can be assigned to a request group.
- You can use the code as an argument passed from a menu to the standard submission form.
- When a menu that calls the standard submission form uses the code, that form lists only those programs in the request group identified by the code.

Customizing the Submit Requests Window using Codes

You can give the Submit Requests Window a different title, and define the form so that it allows users to select only those reports or concurrent programs belonging to a request group that you have assigned a code to. To do this, you register a form function that references the Submit Requests Window, and you pass certain arguments to the function. Then you construct your menu to include this form function. See: Menus: page 2 – 36.

Using a Request Group Code as an argument

The following table describes the parameters passed to associate a request group with the Submit Requests Window and to customize the

title of that form. Text is entered in the Parameters field of the Form Functions form.

Parameter Syntax followed by Example	Explanation
REQUEST_GROUP_CODE ="*Request Group Code*" REQUEST_GROUP_CODE = "OE_CONC_PROGRAMS"	This parameter passes the request group's code. (Required)
REQUEST_GROUP_APPL_SHORT_NAME = "*Application short name*" REQUEST_GROUP_APPL_SHORT_NAME = "OE"	This parameter identifies the short name for the application associated with the request group. (Required)
TITLE ="*Application_short_name:Message_Name*" TITLE = "FND:SRS_NEWTITLE"	This parameter identifies a message whose contents define the title, as well as the application short name of that message. (Optional)
LOOKUP = "Y | N" LOOKUP = "Y"	This parameter indicates whether the TITLE parameter is a message name or a hardcoded string. The default value is "Y", which indicates that TITLE is a message name. (Optional)

Table 4 – 3 (Page 1 of 1)

Customizing the Submit Requests Window

You can customize the Submit Request window in several ways.

Rename the Window Title

You can change the title to reflect the requests available in the window. See: Customizing the Submit Requests Window using Codes: page 4 – 20.

Restrict Requests Available to A Request Group

You can restrict the reports and programs available to those in a specified request group. See: Customizing the Submit Requests Window using Codes: page 4 – 20.

Restrict Requests to a Single Request

You can call Submit Requests form for a single request submission by passing the program / set name as parameters

The parameters window pops up on navigation to the form when called with a program / report_set name. The form exits after the user acknowledges the displayed request ID for the submitted request.

Restrict Requests To A List of Requests

You can call Submit Requests form to submit one or more requests for a single program / set by passing the program / set name as parameters

The parameters window pops up on navigation to the form and the user can submit one or more requests for the program that was passed as a parameter. Requests for other programs cannnot be submitted in this case.

Pass Parameters Used in Value Set Parameters

You can pass additional parameters to the Submit Requests form that can be referenced in the value sets to validate the request parameters.

Pass Manufacturing "ORG" Parameters

You can pass 5 ORG related parameters and refer to them in the value set. Alternatively, you can bring up a ORG LOV on navigation to the Submit Requests form that populates the ORG parameters which can be referenced in the value sets.

Complete List of All Submit Request Paramters

Below is the comprehensive list of parameters supported by the "Run Requests" / SRS form and additional information about their usage.

- REQUEST_GROUP_CODE
- REQUEST_GROUP_APPL_SHORT_NAME (used with REQUEST_GROUP_CODE)
- CONCURRENT_PROGRAM_NAME
- PROGRAM_APPL_SHORT_NAME (used with CONCURRENT_PROGRAM_NAME)
- REQUEST_SET_NAME
- SET_APPL_SHORT_NAME (used with REQUEST_SET_NAME)
- SUBMIT_ONCE (default 'N').

SUBMIT_ONCE can be set to either Y or N (N is the default).

SUBMIT_ONCE is used in conjunction with CONCURRENT_PROGRAM_NAME or REQUEST_SET_NAME.

If SUBMIT_ONCE is set to Y, then the form will exit after the Submit button is clicked.

- TITLE
- LOOKUP (default 'N')
- USE_ORG, ORG_ID, ORG_NAME, ORG_CODE, CHART_OF_ACCOUNTS_ID (five parameters)

  If USE_ORG is set to 'Y' (default is 'N') then the Submit Requests form checks to see if the other ORG parameters are set. If the parameters are not set, then it attempts to populate the parameters from the globals (GLOBAL.FND_ORG_ID, GLOBA L.FND_ORG_NAME, etc.). If the globals have not yet been set, the an ORG LOV shows, and both the parameters and the globals are populated from the LOV.

  Values sets should always reference the parameters, not the globals.

- CHAR1, CHAR2, CHAR3, CHAR4, CHAR5
- DATE1, DATE2, DATE3, DATE4, DATE5
- NUMBER1, NUMBER2, NUMBER3, NUMBER4, NUMBER5

  In your value sets, refer to these parameters as:

```
:PARAMETER.CHAR1, :PARAMETER.DATE1,
:PARAMETER.NUMBER1  etc.
```

Report Group Responsibilities Report

This report lists those responsibilities which have access to a report or a request set. Use this report when granting access privileges to reports and request sets, either by assigning reports and request sets to request security groups, or when assigning owners to a request set.

Report Parameters

Application Name

Choose the application name associated with the report or request set.

Report Name/Request Set Name

Either choose the name of a report or request set.

Defining Program Incompatibility Rules

This essay explains how you can define incompatibility rules for your concurrent programs and reports.

Incompatible and Run Alone Programs

When a concurrent program is incompatible with another program, the two programs cannot access or update the same data simultaneously.

When you define a concurrent program, you can list those programs you want it to be incompatible with. You can also list the program as incompatible with itself, which means that two instances of the program cannot run simultaneously.

You can also make a program incompatible with *all other* concurrent programs by defining the program to be run–alone.

You define a concurrent program to be run–alone or to be incompatible with specific concurrent programs by editing the concurrent program's definition using the Concurrent Programs window. See: Concurrent Programs: page 4 – 66.

Program incompatibility and run–alone program definitions are enforced using Conflict Domains.

Request Sets – Incompatibilities Allowed

When you define a request set or request set stage that allows incompatabilities, you create a concurrent program that runs the reports in your request set or stage according to the instructions you entered. Using the Concurrent Programs window, when you list programs as incompatible with a request set, those programs are prevented from starting until all the reports in the set or stage have completed running.

To define incompatibility rules for a request set and request set stage:

- For a request set check the Allow Incompatibility check box on the Request Set window.
- For a request set stage check the Allow Incompatibility check box on the Stages window.
- Navigate to the Incompatible Programs block in the Concurrent Programs form and list those programs that your request set or stage is incompatible with.

All concurrent programs that run request sets are titled *Request Set <name of request set>* while all concurrent programs that run request set

stages are titled *Request Set Stage <name of stage>–Request Set <name of request set>*. In the Concurrent Programs form, if you query a request set or stage concurrent program on the basis of the program's name, you must enter in the Name field the words:

- "Request Set" or "Request Set Stage" before the name of a concurrent program
- "Request Set %" to perform a query on all request set and stage programs

Concurrent Conflict Domains

If two programs are defined as incompatible with one another, the data these programs cannot access simultaneously must also be identified.

In other words, to prevent two programs from concurrently accessing or updating the same data, you have to know *where*, in terms of data, they are incompatible. A Conflict Domain identifies the data where two incompatible programs cannot run simultaneously.

Conflict Domains

In Oracle Applications, data is stored in database tables that belong to a particular application. Each table may also contain information used to determine what conditions need to be met to access the individual records. These conditions may consist of one or more of the following data groupings:

- SOB – based on the profile option GL_SET_OF_BOOKS
- Multiple installations (referred to as MSOB)
- Multiple Operating units (determined by profile option MO_OPERATING_UNIT) (referred as MULTIORG).
- Multiple Orgs (determined by profile option INV_ORGANIZATION_ID, Used by Manufacturing Applications)
- HR may use business group as a conflict resolution domain
- FA may use FA book
- etc...

A conflict domain is an abstract representation of the groupings used to partition your data. There is no limit to the number of domains that can be defined, but excessive domains may hurt performance.

All programs are assigned a conflict domain when they are submitted. If a domain is defined as part of a parameter the concurrent manager will use it to resolve incompatibilities. If the domain is not defined by a parameter the concurrent manager uses the value defined for the profile option Concurrent:Conflicts Domain. Lastly, if the domain is not provided by a program parameter and the Concurrent:Conflicts Domain profile option has not been defined the 'Standard' domain is used. The Standard domain is the default for all requests.

All programs use the Standard conflict domain unless a value is defined for the profile option Concurrent:Conflicts Domain or a conflict domain is defined through a program parameter.

Each request submitted uses parameters which identify the records that it will access. For programs that are defined with incompatability rules an additional parameter (conflict domain parameter) is used. The conflict domain may be set automatically based on such variables as a login ID, set of books, or the organization the user is working in. The conflict domain parameter may in some cases be selected in the parameters field of the Submit Requests form. Once the parameter is determined the Conflict Resolution Manager (CRM) uses the domain to ensure that incompatible programs do not run simultaneously in the same domain.

Enforcing Incompatibility Rules

Concurrent managers read requests to start concurrent programs running. The Conflict Resolution Manager checks concurrent program definitions for incompatibility rules.

If a program is identified as Run Alone, then the Conflict Resolution Manager prevents the concurrent managers from starting other programs in the same conflict domain.

When a program lists other programs as being incompatible with it, the Conflict Resolution Manager prevents the program from starting until any incompatible programs in the same domain have completed running.

The figure below illustrates the role of the Conflict Resolution Manager when enforcing program incompatibility rules.

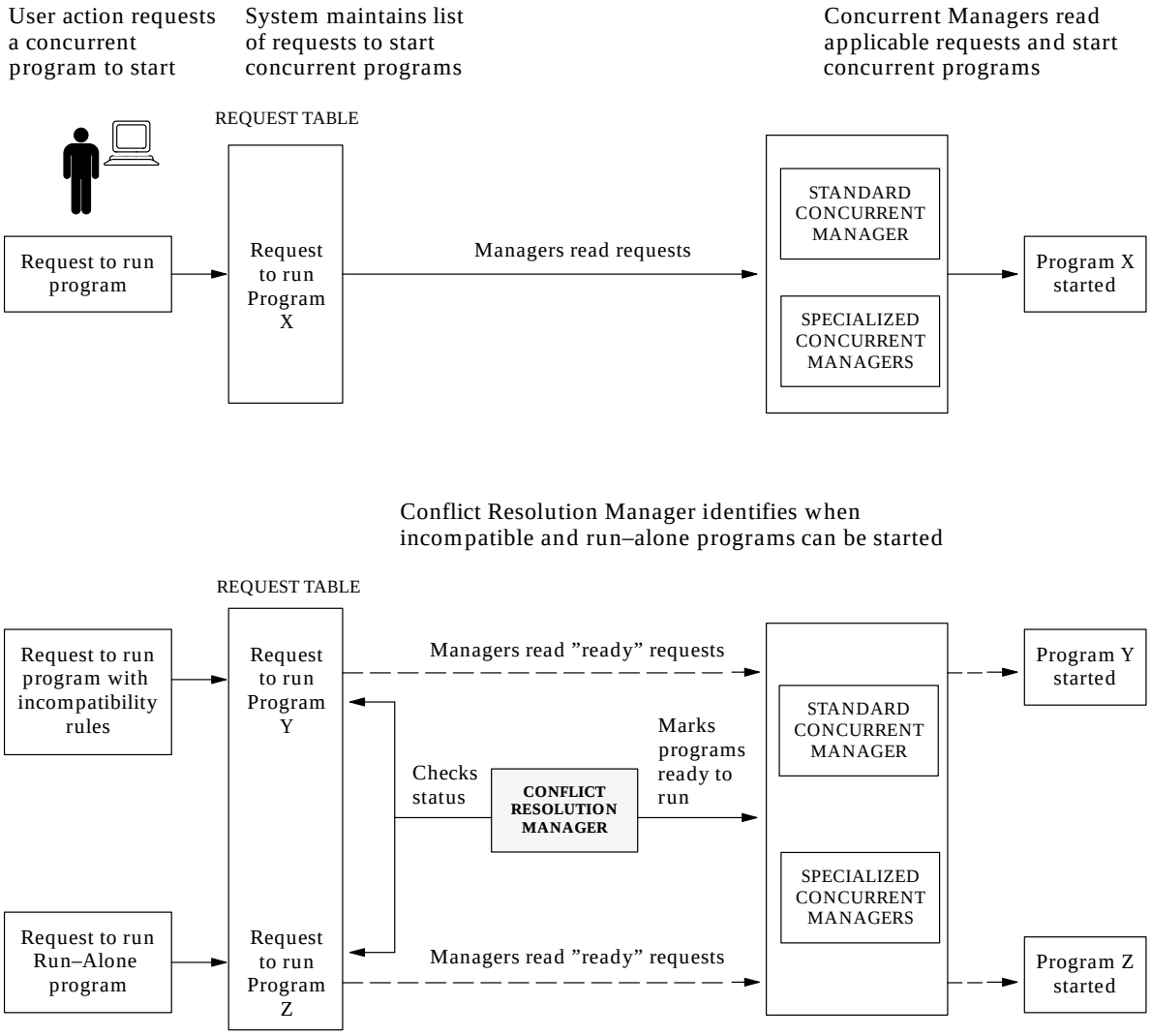
In a simple example without incompatibilities, a user submits a request to run a program. This request is then added to the request table which contains a list of requests. Managers then read requests from this table and start the associated concurrent programs.

A more complex example users may have submitted one request with incompatibility rules and another request to run a program that must

be run alone. In this case these requests are added to the request table, but the Conflict Resolution Manager then checks the statuses of the requests in the table and marks which requests are ready to be run. The concurrent managers then read only the ”ready” requests and start their concurrent programs.

Figure 4 – 4

Conflict Resolution Manager enforces incompatibility rules


User action requests a concurrent program to start
System maintains list of requests to start concurrent programs
Concurrent Managers read applicable requests and start concurrent programs
REQUEST TABLE
Request to run program
Request to run Program X
Managers read requests
STANDARD CONCURRENT MANAGER
SPECIALIZED CONCURRENT MANAGERS
Program X started
Conflict Resolution Manager identifies when incompatible and run–alone programs can be started
REQUEST TABLE
Request to run program with incompatibility rules
Request to run Program Y
Managers read "ready" requests
Checks status
CONFLICT RESOLUTION MANAGER
Marks programs ready to run
STANDARD CONCURRENT MANAGER
SPECIALIZED CONCURRENT MANAGERS
Program Y started
Request to run Run–Alone program
Request to run Program Z
Managers read "ready" requests
Program Z started

Defining Data Groups

This essay explains how you can define data groups, which specify your applications database connections.

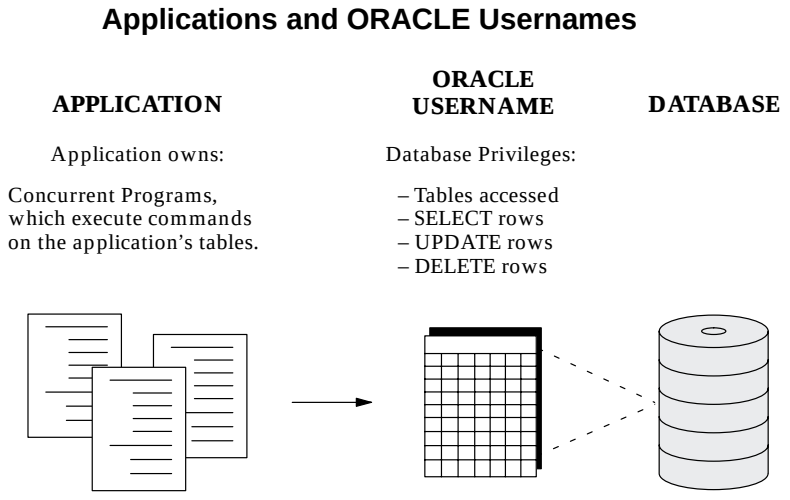
Introduction to Data Groups

A data group is a list of Oracle Applications and the Oracle username assigned to each application. Each application in a data group must have a Oracle username assigned to it. An application may be listed only once in a data group.

An application includes concurrent programs that execute commands on the application's tables.

An Oracle username and password allow access to an application's tables in an Oracle database. Each Oracle username in a data group determines the database tables and table privileges accessible by the corresponding application or applications.

Figure 4 – 5



Data Group's Purpose

Each responsibility has a data group associated with it. A data group serves two purposes:

1. It identifies the Oracle username that forms connect to when you select the responsibility.
2. Concurrent managers use a data group to match the application that owns a report or concurrent program (submitted by a user of the responsibility) with a Oracle username.

Using Data Groups

Using Data Groups with multiple Sets of Books

Use data groups to support multiple installations of an Oracle Applications product (for example, Oracle Payables) that supports multiple sets of books, where a different application is associated with each set of books.

For example, with two installations of Oracle Payables supporting two Sets of Books, use data groups to indicate which Oracle Payables Oracle username to access from a certain General Ledger responsibility.

Define a data group for each application installation (set of books).

Define a responsibility for each application installation (set of books), and assign the appropriate data group to each responsibility.

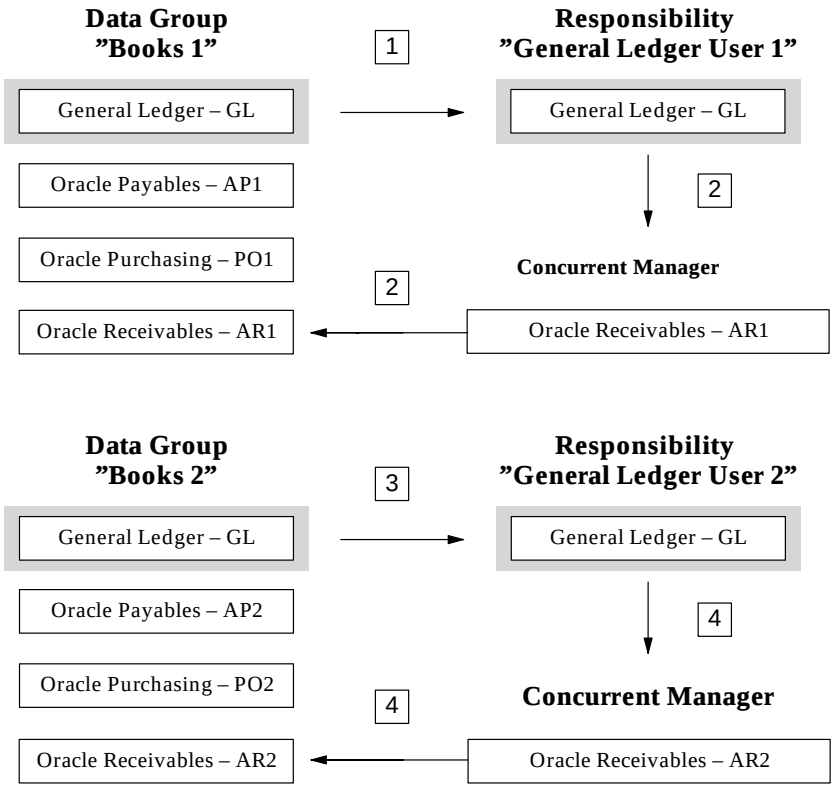
Using Data Groups to include custom applications

Use data groups to include custom applications you develop using Oracle's Application Object Library. To integrate a custom application with Oracle Applications, you must register the application using the Applications window. See: Applications Window: page 8 – 18.

An example of using two Data Groups to support two installations of Oracle Payables, Oracle Purchasing, and Oracle Receivables is illustrated below.

Figure 4 – 6

Using Data Groups with multiple product installations.



1 Data Group Books 1 is assigned to Responsibility General Ledger User 1.

2 A user of responsibility General Ledger User 1 submits an Oracle Receivables report, which runs accessing data with ORACLE ID AR1 privileges.

3 Data Group Books 2 is assigned to Responsibility General Ledger User 2. Note: both responsibilities attach to the same set of forms (same ORACLE ID).

4 A user of responsibility General Ledger User 2 submits an Oracle Receivables report, which runs accessing data with ORACLE ID AR2 privileges.

In this example a data group Books 1 is assigned to a responsibility called General Ledger User 1. A user with this responsibility can submit an Oracle Receivables report, which runs accessing data with ORACLE ID AR1 privileges. Another data group Books 2 is assigned to a responsibility called General Ledger User 2. Note: both

responsibilities attach to the same set of forms, (same ORACLE ID). A user of responsibility General Ledger User 2 can submit an Oracle Receivables report which runs accessing data with ORACLE ID AR2 privileges.

See:

Defining Data Groups: page 4 – 30

Modifying Data Groups: page 4 – 33

Data Groups: page 4 – 81

ORACLE Users field help: page 8 – 12

Modifying Data Groups

Predefined Standard Data Groups

During installation or upgrade of Oracle Applications, a standard data group is defined that pairs each installed application with an ORACLE username (note: this occurs for each set of books).

You cannot change or delete the predefined values for *Application* or *ORACLE username* in a Standard data group. However, you may modify the Tool ORACLE username and description, or add new Application–ORACLE username pairs to the group.

Defining new Data Groups

Since the installation process automatically defines Data Groups for Oracle Applications, you only need to define any additional data groups you wish to utilize.

You can copy a data group and give it a new name, creating a new data group. Each application, its assigned Oracle username, and, if present, its Tool Oracle username and description, are copied to the new data group.

Suggestion: Make a backup copy of your standard Data Group, and do not assign it to a responsibility. That way, if you ever inadvertently connect the wrong Oracle username to an application, or lose track of your applications' configuration, you have an initial configuration you can revert to.

Adding a custom application to a Data Group

If a custom application is developed with Oracle Application Object Library, to include it in a Data Group, you:

- Register the application with Oracle Applications using the Applications form
- Assign an Oracle username to the application using the ORACLE Usernames form

Registering an Oracle Username

Registering an Oracle username with Oracle Applications sets up the privileges to the Oracle Application Object Library database tables (such as flexfield tables, menu tables, and so on) that are necessary to successfully use Oracle Applications. See: Overview of Applications DBA Duties: page 8 – 2.

Custom Concurrent Programs

This section provides information for system administrators on custom concurrent programs. It explains certain procedures and conventions for creating customized concurrent programs:

- Log and Output Filenames
- Oracle Tool Concurrent Programs
- Pro*C Concurrent Programs
- Submitting Concurrent Requests (CONCSUB)

For information on creating custom concurrent programs, see the *Oracle Applications Developer's Guide*.

For information on setting up the development environment , see the *Oracle Applications Concepts Guide*.

Log and Output Filenames

Log and output files must have specific names and locations for users to review the files online.

If you use the Oracle Application Object Library routine fdpwrt() to write to files, the concurrent managers automatically name the files according to the operating system's naming conventions. This method of writing to files is completely portable. You do not have to rewrite your programs to name your log and output files differently if you port your application to another platform.

Standard Names

Standard names for log and output files are listed in the following table:

File Type	Location	Filename
Log	*Default:* $<PROD>_TOP/$APPLLOG with Common Directory: $APPLCSF/$APPLLOG	l<request ID>.req
Output	*Default:* $<PROD>_TOP/$APPLOUT with Common Directory: $APPLCSF/$APPLOUT	*Default:* <USERNAME>.<request ID> or O<request ID>.out *or* user.out based on value of APPCPNAM

Table 4 – 4 (Page 1 of 1)

The variable parameters shown in this table have the following values:

- <PROD>_TOP – The application's top environment variable.
- <Request ID> – The number that identifies the concurrent request.
- <USERNAME> – Up to eight characters (uppercase) of the application username of the person who requested the concurrent process.

Oracle Tool Concurrent Programs

If you write concurrent programs in PL/SQL, SQL*Plus, or Oracle Reports, name the program exactly as you identified it in the Execution File field of the Concurrent Program Executable window, plus an extension if necessary.

The following table lists the file extensions used for these programs and the directories where the programs should reside. (This does not apply to PL/SQL stored procedures, which are stored in the database.) The directories are under your custom application's TOP directory, $<PROD>_TOP.

If you use shared PL/SQL libraries with your Oracle Reports programs, and you want to include the libraries you write for your custom application, place the libraries in the $APPLPLS directory under your custom application's TOP directory.

Tool	Extension	Directory	Comments
SQL*Plus and PL/SQL	.sql	$APPLSQL	The program name is case sensitive and must exactly match the Execution file you defined with Oracle Application Object Library.
Oracle Reports	.rdf	$APPLREP	Oracle Application Object Library looks for the .rdf file first. It uses the .rex file if it does not find the .rdf file. The program name is case sensitive and must exactly match the execution file name you defined with Oracle Application Object Library.
SQL*Loader	.ctl	$APPLBIN	

Table 4 – 5 (Page 1 of 1)

Pro*C Concurrent Programs

When you write a concurrent program in Pro*C, copy the skeleton programs EXMAIN.c and EXPROG.c from the directory

$FND_TOP/$APPLUSR. Rename the files and globally replace SUBROUTINE_NAME with the name of your subroutine.

EXMAIN.c is the skeleton used for your spawned programs. EXPROG.c is the skeleton used for your program's logic. This module can be used to create a spawned or an immediate program. For immediate programs, you must include your copy of EXPROG.c in a program library. See below for information on building a program library.

You can use programs written with these skeleton programs as spawned or immediate concurrent programs. Spawned programs run as a separate process while immediate programs run linked in with a concurrent manager.

Attention: Oracle Corporation provides information on immediate concurrent programs for backwards compatibility only. We strongly recommend that you do not create any new immediate concurrent programs. You should define your new Pro*C concurrent program executables as spawned.

Naming Your Executable File

Name your program's executable file exactly as you identified it in the Execution File field of the Concurrent Program Executable window. Put your executable file in the $APPLBIN directory under your application's TOP directory.

Building Your Program Library

Register a new program library with the Register Concurrent Program Library form and register all the programs you want to include in this library. Then enter "Yes" in the Rebuild field and commit. This creates a request to build a new catalog file called <Library Name>.c under $<PROD>_TOP/$APPLLIB$. You should compile the <Library Name>.c file after the request completes.

Sample program libraries such as prgcat.c and prglib.c are located under $FND_TOP/$APPLUSR.

Suggestion: For ease of maintenance, define your concurrent program executables as spawned.

Compiling C and Pro*C Programs

Your environment for compiling custom code depends on the file $FND_TOP/usrxit/devenv. If you change this file, you should reread it by logging in again so that the changes take effect.

You compile your C or Pro*C programs into object modules using $FND_TOP / usrxit / Makefile. You then link your programs using adrelink. We do not support both compiling and linking executables using a single makefile or utility.

To compile the C program example.c, use the following syntax. In all the examples, you should run the commands from the directory in which your files are located.

```
$ make –f $FND_TOP/usrxit/Makefile example.o
```

To compile the Pro*C program proexamp.pc, use the following syntax:

```
$ make –f $FND_TOP/usrxit/Makefile proexamp.o
```

To compile the four C and Pro*C programs a.c, b.c, c.pc, d.pc (all of which are in the current directory), use the following syntax:

```
$ make –f $FND_TOP/usrxit/Makefile a.o b.o c.o d.o
```

Linking Spawned Concurrent Programs as Stand–alone Programs

If you want your spawned concurrent program to run as a stand–alone program, perform the following steps before compiling your stand–alone executable.

For custom concurrent programs you define under your custom application (as recommended), you should copy the sample.mk file from $FND_TOP / usrxit to your $<PROD>_TOP / $APPLLIB directory. Modify your copy according to the instructions contained in the file. This is the file adrelink uses to link your stand–alone executables.

Then enter the following commands.

```
$ . $FND_TOP/fndenv
```

Move to the directory in which your source files are kept.

```
$ cd <source_directory>
```

$ make –f $FND_TOP / $APPLLIB / Makefile <source file>.o

Here, <source file> is the name of the file containing your program and <directory> is the directory where the source file is located.

You can then link your stand–alone executable and place the executable in the $APPLBIN directory under the TOP directory for your custom application:

```
$ adrelink force=y "<appl_short_name> <program name>"
```

In this relink command, <appl_short_name> is the application short name of the application your program belongs to, and <program name> is the program name.

Linking your Immediate Concurrent Program

To create a program library, you link your compiled library catalog with your program object files using an Oracle Application Object Library link procedure.

Attention: Oracle Corporation provides information on immediate concurrent programs for backwards compatibility only. We strongly recommend that you do not create any new immediate concurrent programs. You should define your new Pro*C concurrent program executables as spawned.

Make sure the environment variable $LUSRLIB includes the modules that define the functions for the immediate concurrent programs and your program library. Set the $LUSRPRG variable to include the object modules of your library catalog. The file devenv in the directory $FND_TOP/$APPLUSR defines the variables $LUSRLIB and $LUSRPRG. The file fndenv executes devenv.

The files devenv and fndenv are UNIX shell scripts that set up the necessary environment variables.

We recommend that you make a copy of the working program library before linking your new immediate concurrent program library in case your new program library does not function as expected. To link your program library, execute this command from the operating system:

```
$ adrelink force=y "fnd UFNDLIBR"
```

This creates your new program library as UFNDLIBR. You can rename it, but the name of your new program library must be eight characters or less.

Testing Pro*C Concurrent Programs

You can use the following method to test your program. You must pass each argument needed by your program. To pass parameters, enter the following at the operating system prompt:

```
$ <program name> <ORACLE username>/<ORACLE password> 0 Y \
[<parameter 1> <parameter 2>... ]
```

The program name must be uppercase and the same name that you entered in the Execution File field of the Concurrent Program Executable window. The 0 and Y arguments are required.

If any of your program–specific parameters includes spaces, enclose that parameter in double quotes. If a parameter contains a literal double quote, precede that mark with a backslash [\].

Name your program <name>.prog, where <name> is the value you enter in the Execution File field of the Concurrent Executable window. Then make a symbolic link using your execution file name (without an extension) to fndcpesr, which is located in the $FND_TOP/$APPLBIN directory. Put your executable file and the linked file in the $APPLBIN directory under your application's TOP directory.

For example, name your custom shell script CUSTOM.prog. Create a symbolic link to fndcpesr named CUSTOM. Place both files in your $APPLBIN directory. Create your concurrent program executable using the execution file CUSTOM.

Host Program Parameters

The concurrent manager running your program puts your program name in $0, the four arguments orauser/pwd, userid, username, and request_id in $1 to $4, and your program specific parameters in $5 and beyond. Each of these arguments can be at most 50 characters.

For example, if you pass two parameters into your program, you use $5 to refer to the first parameter and $6 to refer to the second parameter.

Protecting Your Oracle User Password

In some cases, there are security concerns with passing your Oracle username and password directly to your HOST program. If you do not want the concurrent manager to pass your username/password to your program, you can have the manager pass it as an environment variable instead, or not pass it at all.

First, define your concurrent program executable as a HOST program in the Concurrent Program Executable form.

To have the username/password passed as an environment variable, enter the term 'ENCRYPT' in the Execution Options field of the Concurrent Programs window when defining a concurrent program using this executable. 'ENCRYPT' signals the concurrent manager to pass the username/password in the environment variable fcp_login. The argument $1 is left blank.

If you do not want the username/password passed to the program at all, enter 'SECURE' in the Execution Options field. The concurrent manager will not pass the username/password to the program.

Success Codes

By default, a shell script returns success (status code 0). If your script traps an error, use the UNIX exit command "exit 1" to return failure (status code 1) to the concurrent manager running the program.

Log and Out Files

Use names in FCP_LOG and FCP_OUT. This way log and output/report files can be viewed online.

Testing Your Program

You should test using the <name>.prog file to make sure your script behaves correctly.

Submitting Concurrent Requests (CONCSUB)

You can test your concurrent program by submitting the program using the CONCSUB utility from the operating system.

Syntax

You can submit a concurrent request to run any concurrent program by running the CONCSUB program with the following syntax:

```
$ CONCSUB <APPS username>/<APPS password> \
<responsibility application short name> \
<responsibility name> \
<username> \
[WAIT=N|Y|<n seconds>] \
CONCURRENT \
<program application short name> \
<program name> \
[PROGRAM_NAME="<description>"] \
[REPEAT_TIME=<resubmission time>] \
[REPEAT_INTERVAL= <number>] \
[REPEAT_INTERVAL_UNIT=< resubmission unit>] \
[REPEAT_INTERVAL_TYPE=< resubmission type>] \
[REPEAT_END=<resubmission end date and time>] \
[START=<date>] \
[IMPLICIT=< type of concurrent request> \
[<parameter 1> ... <parameter n>]
```

For parameters that follow the CONCURRENT parameter and include spaces, enclose the parameter argument in double quotes, then again in single quotes. Oracle Application Object Library requires this syntax because it parses the argument string twice. For example, to pass this argument to a program:

```
This is an example
```

pass this argument through CONCSUB:

```
'"This is an example"'
```

Example

Here is an example of the command to run CONCSUB:

```
$ CONCSUB APPS/APPS \
SYSADMIN \
"System Administrator" \
SYSADMIN \
WAIT=N \
CONCURRENT \
FND \
FNDFMRTC \
PROGRAM_NAME='"Register Custom Tables Weekly"' \
REPEAT_INTERVAL=7 \
REPEAT_INTERVAL_UNIT="DAYS" \
REPEAT_INTERVAL_TYPE="START" \
START='"08-JUN-96 23:55:00"'
CGL
APPLSYS
ALL
CGL
```

Parameters

The following entries explain the required and optional parameters for submitting a concurrent program with CONCSUB. Default values are listed to the right.

username/password — Required. The ORACLE username and password that provides access to the data that your program uses.

responsibility application short name — Required. The application short name of the responsibility whose concurrent processing options you want to use.

responsibility name — Required. The name of your responsibility. If the name of your responsibility includes spaces, enclose that name in double quotes.

username — Required. The uppercase username of the application user whose concurrent processing options you want to use.

WAIT Optional. A flag that indicates whether to wait for the submitted request to complete. If you leave this parameter out, the default value of N makes CONCSUB return you to the operating system prompt without waiting for your request to complete.

Set WAIT=Y to have CONCSUB check the request status every 60 seconds and return you to the operating system prompt when your request is completed. You can also enter an integer value for a number of seconds, as in WAIT=30, for CONCSUB to check for request completion every <number> seconds.

Attention: Using WAIT=Y or WAIT=<number> requires that your request completes before CONCSUB returns you to the operating system. If the concurrent manager is down, your CONCSUB process waits indefinitely until the concurrent manager is started and the request completes.

CONCURRENT Required. A flag that separates the program–specific parameters from the operating system parameters.

program application short name Required. The application short name of your concurrent program.

program name Required. The uppercase name of your program. It must be the short name that you enter in the Concurrent Programs window when defining a concurrent program.

PROGRAM_ NAME Optional. A descriptive name for your program. The program field on the View Requests form displays this as the user–friendly program name. The concurrent program short name passed to CONCSUB is often hard for end users to understand, so the PROGRAM_NAME parameter allows you to pass a more easily remembered name for your concurrent program. If you do not specify a PROGRAM_NAME, the View Requests form displays the user–friendly program name specified in the Concurrent Programs window.

You may also use the PROGRAM_NAME parameter to indicate the batch that your request processes for programs that process a set of data,

where there could be several requests for a given program that are active at the same time.

REPEAT_TIME Optional. The time of day to resubmit the request. The format for the time is HH24:MI or HH24:MI:SS. For example, REPEAT_TIME=14:30 resubmits your request daily at 2:30 p.m.

Attention: Do not use REPEAT_TIME with other resubmission parameters except for the optional parameters REPEAT_END and START.

REPEAT_ INTERVAL Optional. The interval between resubmission (a positive integer or real number). Use this parameter along with REPEAT_INTERVAL_UNIT to specify the time between resubmissions.

REPEAT_ INTERVAL_ UNIT Optional. The unit of time used for the interval between resubmissions. The available units are MINUTES, HOURS, DAYS or MONTHS. Use this parameter along with REPEAT_INTERVAL to specify the time between resubmissions. For example, setting REPEAT_INTERVAL=12 and REPEAT_INTERVAL_UNIT=HOURS resubmits your request every twelve hours. The default value is DAYS.

Attention: Do not use REPEAT_INTERVAL and REPEAT_INTERVAL_UNIT with REPEAT_TIME.

REPEAT_ INTERVAL_ TYPE Optional. Whether to time the resubmission interval from the requested start time of the request or from its completion. Set this parameter either to START or END. The default value is START.

Attention: Use REPEAT_INTERVAL_TYPE only if you use REPEAT_INTERVAL.

REPEAT_END Optional. The date and time to stop resubmitting the concurrent request. Use one of the following for the format of the end date:

```
'"DD-MON-RR HH24:MI:SS"'
(as in '"07-APR-02 18:32:05"')
```

or

```
'"DD-MON-RRRR HH24:MI:SS"'
(as in '"07-APR-2002 18:32:05"')
```

Note that because this date format includes a space, you must enclose the date in double

quotation marks and single quotation marks. You can also specify just the date:

```
'DD-MON-RR'
```

or

```
'DD-MON-RRRR'
```

START Optional. A start date and time for your program in this format:

```
'"DD-MON-RR HH24:MI:SS"'
(as in '"07-APR-02 18:32:05"')
```

Because this date format includes a space, you must enclose the date in double quotation marks and single quotation marks. If you do not specify a start time, your program submits immediately and is processed by the next available concurrent manager. The default value is the current time.

IMPLICIT Optional. Whether to show this concurrent request on the View Requests form. Specify NO, YES, ERROR or WARNING. The value IMPLICIT=NO allows the request to appear on the View Request form. The default value is NO.

The value IMPLICIT=YES means that only the System Administrator's privileged View Concurrent Requests form displays this request. Use this value if the request is not interesting to the user.

Specify IMPLICIT=ERROR or IMPLICIT=WARNING, respectively, if you want the request to appear only if it fails or completes with warnings.

REPEAT_DAYS Optional. The number of days after which to repeat the concurrent request, calculated from the last requested start date. The number can be a positive integer or real number. For example, REPEAT_DAYS=1.5 resubmits your request every 36 hours.

Attention: Do not use REPEAT_DAYS with other resubmission parameters except for the optional parameters REPEAT_END and START.

Suggestion: REPEAT_DAYS will become obsolete in a future release. You may therefore want to use REPEAT_INTERVAL,

REPEAT_INTERVAL_TYPE and REPEAT_INTERVAL_UNIT instead of REPEAT_DAYS.

parameter 1 ...
parameter *n*

Optional. Your program–specific parameters. If a parameter includes spaces, enclose that parameter in double quotes, then in single quotes. If a parameter contains a double quotation mark as part of the argument, precede that mark with a backslash [\].

Copying and Modifying Program Definitions

These sections explain how you can copy and modify concurrent program definitions.

Warning: Do not overwrite program definitions for existing concurrent programs. Copy the program, rename it, then make any desired modifications to the new program.

Warnings for Modifying Program Definitions: page 4 – 54

Copying and Renaming a concurrent program

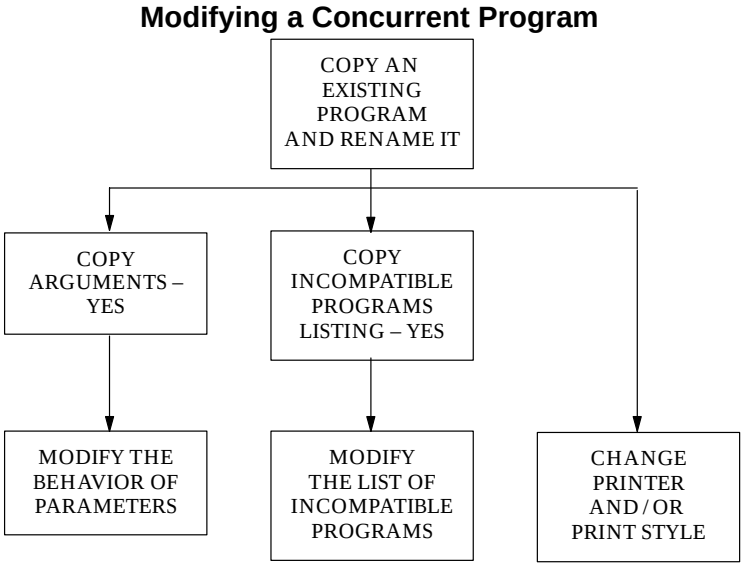
You can copy your concurrent programs and modify them to create new programs with definitions that meet your needs. You can modify how a concurrent program operates by changing the program's definition of:

- incompatible programs
- parameters (arguments)
  - parameter value sets
- printer, print style, etc.

Rather than overwrite a concurrent program's definition, you should customize a program by copying and renaming an existing program, then modifying the new program to suit your needs. The figure below illustrates the basic steps in copying and modifying a new concurrent program.

As the figure illustrates, you can copy parameters, and then modify the behavior of the parameters. Or you can copy the list of incompatible programs, and then modify the list. Finally , you can change the associated printer and / or print style.

Figure 4 – 7


Modifying a Concurrent Program
COPY AN EXISTING PROGRAM AND RENAME IT
COPY ARGUMENTS – YES
COPY INCOMPATIBLE PROGRAMS LISTING – YES
MODIFY THE BEHAVIOR OF PARAMETERS
MODIFY THE LIST OF INCOMPATIBLE PROGRAMS
CHANGE PRINTER AND/OR PRINT STYLE

Alter Program Priority

You may wish to control the priority of some requests on a program level rather than at the user level.

Setting the priority for a program allows any request to run that concurrent program to use your selected priority rather than the priority of the user submitting the request.

For example, a user can submit a variety of requests at the standard priority determined by the value of the user profile Concurrent:Priority. However, when the user submits a request for a particular concurrent program, you want that request to have a higher priority.

You assign that program a priority of 10. When the user requests that program to run, it receives the higher priority defined on the Concurrent Program window rather than the user's standard priority and is processed ahead of other requests. When the users requests other concurrent programs that do not have a specified priority, those requests use the user's Concurrent:Priority profile value.

Modifying an Incompatible Programs list

A concurrent program's definition may include a list of incompatible programs. When a program is listed as incompatible with another

program, the two programs cannot run simultaneously in the same conflict domain. See: Defining Program Incompatibility Rules: page 4 – 25.

You can view which programs are incompatible with a concurrent program from the Incompatible Programs block on the Concurrent Programs window. The programs listed cannot run simultaneously within the same conflict domain as the concurrent program whose definition you are viewing.

To modify the list of incompatible programs you can either:

Add new programs to the list.

The *Scope* field refers to whether you want the program by itself to be incompatible, or whether you want the program and all child requests, that is, concurrent programs started by the program as part of a request set, to be incompatible.

- Delete programs from the list.

Attention: To immediately effect any changes you make in the Incompatible Programs zone, you must navigate to the Administer Concurrent Managers window and choose *Verify* for the Internal Concurrent Manager.

Concurrent Program Parameters

Parameters, also referred to as *arguments*, are assigned to standard submission concurrent programs. To define a program as standard submission, set the value of the Standard Submission field in the Concurrent Programs form to Yes.

Attention: All the mechanisms for parameter defaulting (including references to values of other parameters, user profiles, etc.) are evaluated only at submission time.

There are two aspects to a parameter associated with a concurrent program: its value set and its behavior.

Parameter value set — The valid values the parameter can accept. The set of valid values is referred to as a *value set*.

Parameter behavior — How the parameter behaves within an application. For example, whether:

– an entry value for the parameter is required in order for the program to work

– the parameter is displayed to the end user

– a default value is automatically provided for the parameter

If you wish to define or modify a value set, you must first carefully plan your value set's purpose and implementation.

See: Planning and Defining Values and Value Sets (*Oracle Applications Flexfields Guide.*)

Using the Concurrent Programs form, you can see a concurrent program's parameters by choosing *Parameters.* Each parameter has a value set that defines what values are permissible for the parameter. To see the name of a parameter's value set, look at the Value Set field in the Argument Details block.

Control the Behavior of Request Parameters

The behavior of parameters in programs running individually may differ from when those programs are run as part of a request set.

See:

Behavior of Program Parameters: page 4 – 52

Behavior of Parameters in Request Set: page 4 – 53

You define how a program's parameters behave when you define the program using the Concurrent Programs form.

Using the Request Set form, you can also define how a program's parameters behave when the program is run as part of a request. In addition, you can define parameters in different programs in a request set to all share the same value by labeling them as Shared Parameters. See: Sharing Parameters in a Request Set: page 4 – 15.

Warning: Modifying a concurrent program's definition by adding new or deleting existing parameters, or changing a parameter's value set can prevent the program from running. See: Warnings for Modifying Program Definitions: page 4 – 54.

Not Displaying Parameters

Using the Concurrent Programs form or the Request Set form, you can set a parameter so it does not display to an end user. Because parameters that do not display cannot be modified, setting a parameter to not display:

- is a good security measure, guaranteeing a desired default value is used

- means you should enter a valid default type and value at either the program's definition, or if the program is part of a request set, at the request set's definition.

If you define a parameter to not display, then the parameter does not appear when the program is run using the Submit Requests form, nor does it appear in the Request Set form.

If you define a parameter to not display, using the Request Set form, then the parameter does not appear on the Submit Requests form when the program is run as part of a request set.

Viewing displayed parameters after a request is submitted

After a request is submitted to run a concurrent program, the program's parameters may be displayed in the Details block of the Concurrent Requests form.

When a parameter is set to not display, it does not appear in the Details block of the Concurrent Requests form.

These displayed parameter values exactly match the values that the concurrent manager passes to the concurrent program, and may or may not correspond to the displayed value that the user chose.

For example, in the Submit Requests form, the user may choose "Oracle General Ledger" as a parameter, but the corresponding application ID displays in the Concurrent Requests form.

Suggestion: If your users encounter errors when running a program, you can look at the exact values that the concurrent program uses to help you diagnose the problem.

Setting Default Values for Parameters

Entering erroneous default values

If the Default Type or Default Value for a parameter is incorrect, when the program is being set to run using the Submit Requests form, a window displays along with an error message.

If the parameter is not displayed, you receive an error message. You cannot update a field that is not displayed.

Warning: Be careful when entering the default type and default value, because these values are not validated with the value sets for your parameters. If you enter incorrect values, they do not appear as defaults when you run this request set using the Submit Requests form.

Preventing modification of parameter values in a Request Set

If a parameter is displayed in the Request Set form and there is no default value provided by the program's definition, you can define a default value or have the parameter inherit a shared value, and then prevent end users from modifying that value.

Changing responsibility to see changes take effect

Modifying parameter behavior, for example, changing whether a parameter is displayed to the end user, takes effect immediately after you commit your change. However, some changes do not appear to you unless you change responsibility or select your current responsibility again.

The following table describes how a parameter's details affect its behavior in the Concurrent Programs form and the Run Requests form.

Parameter Details	Concurrent Programs form	Run Requests form
Required	Yes	Parameter requires a value (entered by user or a default).
Display	Yes	Parameter is displayed.
	No	Parameter is not displayed, and cannot be modified.
Default Type & Value	Yes – Default Type and Value entered.	A default value displays, and can be changed by the user.
	No default entered.	No default value is displayed.

Table 4 – 6 (Page 1 of 1)

The following table describes how a parameter's details affect its behavior in the Request Sets form and Run Requests form.

Parameter Details	Concurrent Programs form	Request Set form	Run Requests form
Required	Yes	Parameter does not require a value.	Parameter requires a value.
Display	Yes	Parameter is displayed. – Display set to Yes.	Parameter is displayed.

Table 4 – 7 (Page 1 of 2)

Parameter Details	Concurrent Programs form	Request Set form	Run Requests form
		Parameter is displayed. – Display set to No.	Parameter is not displayed.
	No	Parameter not displayed.	Parameter not displayed.
Modify	n / a	Yes	Value can be modified.
	n / a	No	Value cannot be modified.
Default Type & Value	Yes – Default Type and Value entered.	Default Type and Value cannot be modified.	Default values can be changed by the user.
	No default entered.	Yes – a Default Type and Value can be entered.	Default values can be changed by the user.
		No – Default Type and Value are not entered.	No default value is displayed.

Table 4 – 7 (Page 2 of 2)

The following table lists warnings for modifying program definitions:

Action	Form Used	Warning
Changing the number of columns or rows in a report program.	Concurrent Programs – Report Information region.	Some report programs are written to produce a precise output. Changing the output definition could prevent the program from running, or produce poor results.
Setting print style to Dynamic.	Concurrent Programs – Report Information region – Style field.	Dynamic print style informs the program to generate its output based on output dimensions that may vary. Special coding within a program is required to support the Dynamic print style.
Changing the number of parameters in a program definition.	Concurrent Programs – Parameters window.	Programs are defined to expect x number of parameters. If you add a new parameter (x + 1), the program will ignore it. Deleting a parameter can cause a program not to run.

Table 4 – 8 (Page 1 of 2)

Action	Form Used	Warning
Changing Value Sets.	Concurrent Programs – Argument Details region – Value Set field.	Programs expect values of a certain type and length. Programs may not operate if value set is changed.
Changing tokens.	Concurrent Programs – Argument Details region – Token field.	Programs expect values of a certain type and length. Program may not operate if expected token is not received.
Defining a concurrent executable or program's execution method as Immediate.	Concurrent Program Executables – Execution Method field. Concurrent Programs – Executable Information region – Method field.	Concurrent programs whose execution method is Immediate must be registered with the program library FNDLIBR. Application developers can register programs with program libraries, System Administrators cannot.

Table 4 – 8 (Page 2 of 2)

Example of modifying a program's parameters

Consider the following example of when and how to modify a concurrent program's parameters.

If one user submits a large number of concurrent requests on a daily basis, for example, an Oracle Bill of Materials or Oracle Purchasing supervisor, you can create a streamlined purge program that *only* purges that user's concurrent processing records.

You can run this program as System Administrator and have it automatically resubmitted on a specific time interval.

You could also create a request set containing this one program and define the user as the owner of the request set. Then, if you do not assign the request set to any report security group, only the user (owner) can run the program. This way, the user can be responsible for purging their own records.

The System Administrator's Purge Concurrent Request and/or Manager Data program contains twelve parameters. You can copy, rename, and modify the program so it displays only three parameters, with only one parameter requiring user entry. See: Purge Concurrent Request and/or Manager Data: page 5 – 22.

The table below summarizes the steps to follow in our example.

Form Used	Task
Concurrent Programs (Concurrent Programs Define)	Query the Application Object Library program named "Purge Concurrent Request and/or Manager Data" and press Copy. Select both Copy Arguments and Copy Incompatible Programs. Enter a new name for the program you are going to copy, for example, enter JSMITH PURGE.
Concurrent Programs	To modify the JSMITH PURGE program's parameters, select the Parameters button.
Concurrent Programs, Parameter Window	Modify the following seven parameters so they do not display (user JSMITH cannot see nor change the program's default values). – Oracle ID – Program Application – Program – Manager Application – Manager – Responsibility Application – Responsibility Modify the following three parameters so they do not display (user JSMITH cannot see nor change the default values you set). Set the parameters to the following (Type=Constant) defaults: – Entity = Request – Mode = Age – User Name = JSMITH Leave the following two parameters unchanged so they display. Mode Value will require JSMITH to enter a value, and Report is set to a default value of "Yes". – Mode Value – Report

Table 4 – 9 (Page 1 of 2)

Form Used	Task
Request Set (Reports Set)	Create a request set with one program in it, the JSMITH PURGE program. Enter JSMITH in the Owner field. If this request set is not assigned to any report security group, only JSMITH will be able to run the JSMITH PURGE program.
Standard Request Submission program form. For example, the Run Reports form (Reports Run)	When first submitting the JSMITH PURGE program to run, navigate to the Resubmission Options region and enter, for example, ”5” and ”Days” in the Interval field.

Table 4 – 9 (Page 2 of 2)

Concurrent Program Details Report

This report documents concurrent program definitions, including executable file information, execution method, incompatible program listings, and program parameters. If a concurrent program generates a report, column and row information, as well as print output and print style, are also documented.

Use this report when considering concurrent program modifications, such as modifying program incompatibility rules.

Report Parameters

Caution: If you do not enter any parameters, the report returns values for *all* concurrent programs, and may be very lengthy.

Application Name

Choose the application name associated with the concurrent program whose program definition details you wish to report on.

Choose only an application name, without a program name, if you wish to run a program definition details report on all concurrent programs associated with an application.

Program

Choose the name of a concurrent program whose program definition details you wish to report on. You must enter a value for Application Name before entering a value for Program.

Report Headings

The report headings display the specified report parameters and provide you with general information about the contents of the report.

Concurrent Programs Report

This report shows which concurrent programs are currently enabled nand which programs are disabled.

Use this report to record the execution method, argument method, run alone status, standard submission status, request type, and print style information associated with your concurrent programs.

Report Parameters

Application Name

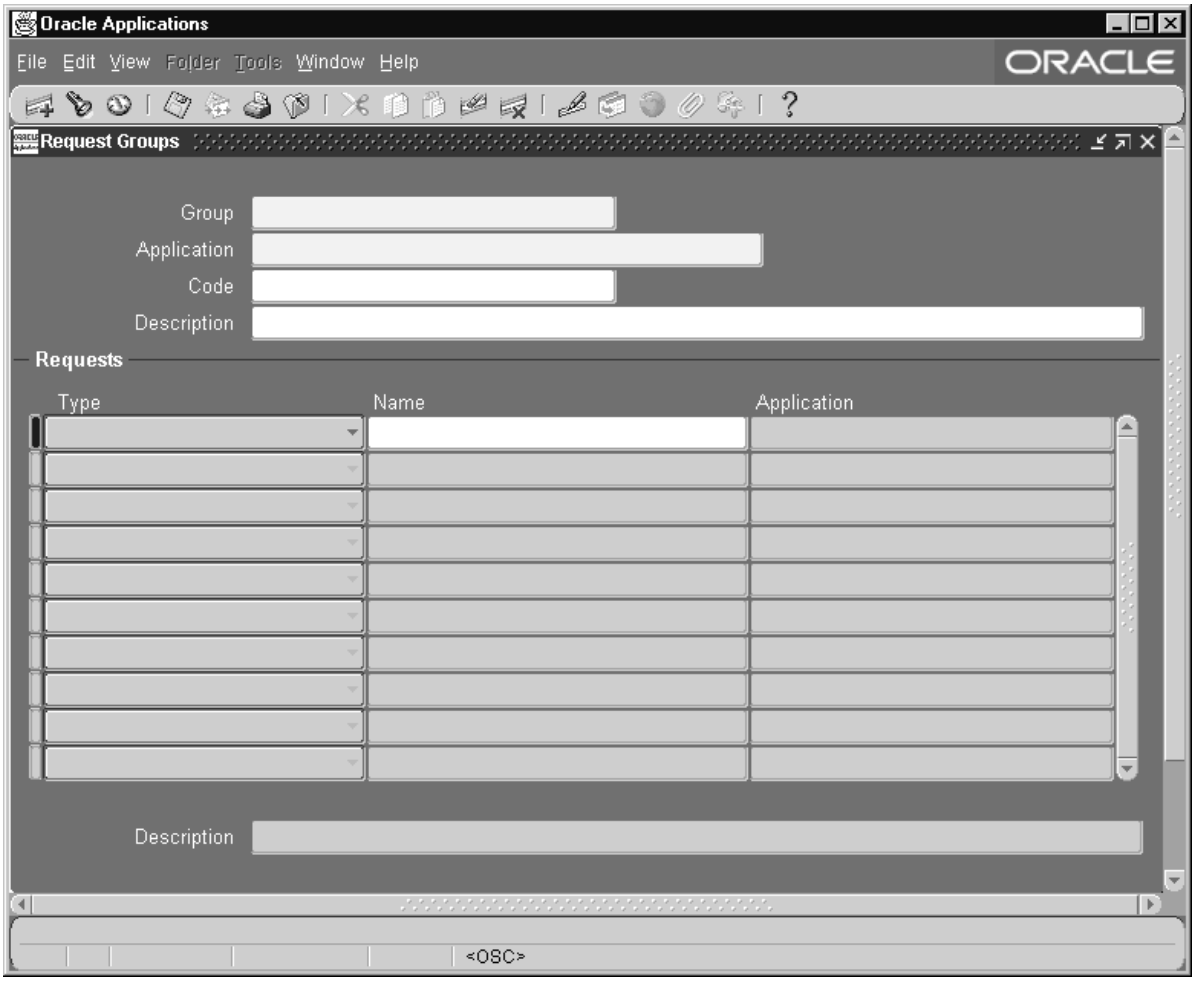
Choose the application name associated with the concurrent programs whose program information you wish to report on.

If you do not enter an application name, the report will return values for *all* concurrent programs.

Report Headings

The report headings display the specified report parameters and provide you with general information about the contents of the report.

Request Groups Window



Use this window to define a request group. A request *security* group is the collection of requests, request sets, and concurrent programs that a user, operating under a given responsibility, can select from the Submit Requests window.

System Administrators:

- Assign a request security group to a responsibility when defining that responsibility. A responsibility without a request security group cannot run any requests using the Submit Requests window.

- Can add *any* request set to a request security group. Adding a private request set to a request security group allows other users to run that request set using the Submit Requests window.

Users:

- Can create their own private request sets using the Request Sets window. In a private request set, users can include only the requests you assign to their request security group.
- Cannot update another user's private request set using the Request Sets window.
- Cannot delete a private request set if it is assigned to a request security group.

Request Groups Block

Group

Use the request group's name to assign the request group to a responsibility on the Responsibilities window. An application name and request group name uniquely identify a request group.

Application

Select the name of the application you wish to associate with your request group. An application name and a request security group name uniquely identify a request security group. This application name does not prevent you from assigning requests and request sets from other applications to this request group.

Code

Assign a code to this request group. Some products use the request group code as a parameter that identifies the requests a customized standard submission form can select. See: Customizing the Submit Requests Window using Codes: page 4 – 20.

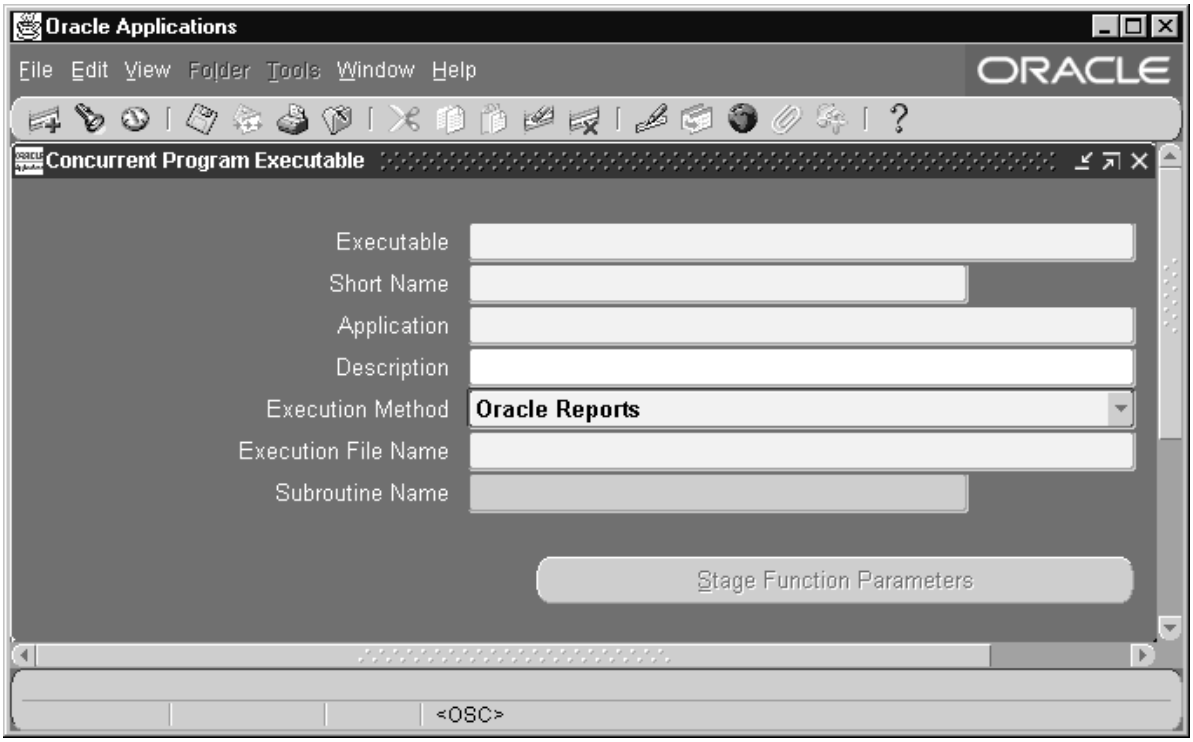
Requests Block

Specify the requests and request sets in the request group.

Type

Choose program or set to add one item, or choose application to include all requests in an application

Concurrent Program Executable Window



Define a concurrent program executable for each executable source file you want to use with concurrent programs. The concurrent program executable links your source file logic with the concurrent requests you and your users submit to the concurrent manager.

Attention: You cannot add new immediate programs to a concurrent manager program library. We recommend that you use spawned concurrent programs instead.

Concurrent Program Executable Block

The combination of application name plus program name uniquely identifies your concurrent program executable.

See: Concurrent Programs Window: page 4 – 66

Executable

Enter a name for your concurrent program executable. In the Concurrent Programs window, you assign this name to a concurrent

program to associate your concurrent program with your executable logic.

Short Name

Enter a short name for your concurrent program executable.

Application

The concurrent managers use the application to determine in which directory structure to look for your execution file.

Execution Method

The execution method cannot be changed once the concurrent program executable has been assigned to one or more concurrent programs in the Concurrent Programs window.

The possible execution methods are:

Host	The execution file is a host script.
Oracle Reports	The execution file is an Oracle Reports file.
PL/SQL Stored Procedure	The execution file is a PL/SQL stored procedure.
Java Stored Procedure	The execution file is a Java stored procedure.
Java Concurrent Program	The execution file is a program written in Java.
Multi Language Function	The execution file is a function (MLS function) that supports running concurrent programs in multiple languages.
SQL*Loader	The execution file is a SQL script.
SQL*Plus	The execution file is a SQL*Plus script.
Spawned	The execution file is a C or Pro*C program.
Immediate	The execution file is a program written to run as a subroutine of the concurrent manager. We recommend against defining new immediate concurrent programs, and suggest you use either a PL/SQL Stored Procedure or a Spawned C Program instead.
Request Set Stage Function	PL/SQL Stored Function that can be uesd to calculate the completion statuses of request set stages.

Execution File Name

Enter the operating system name of your execution file. Some operating systems are case sensitive, so the name entered here should match the file name exactly.

Do not include spaces or periods (.) in the execution file name, unless the execution method is PL/SQL stored procedure or Request Set Stage Function.

The maximum size of an execution file name is 60 characters.

Subroutine Name

Enter the name of your C or Pro*C program subroutine here. Do not use spaces or periods (.) in this field.

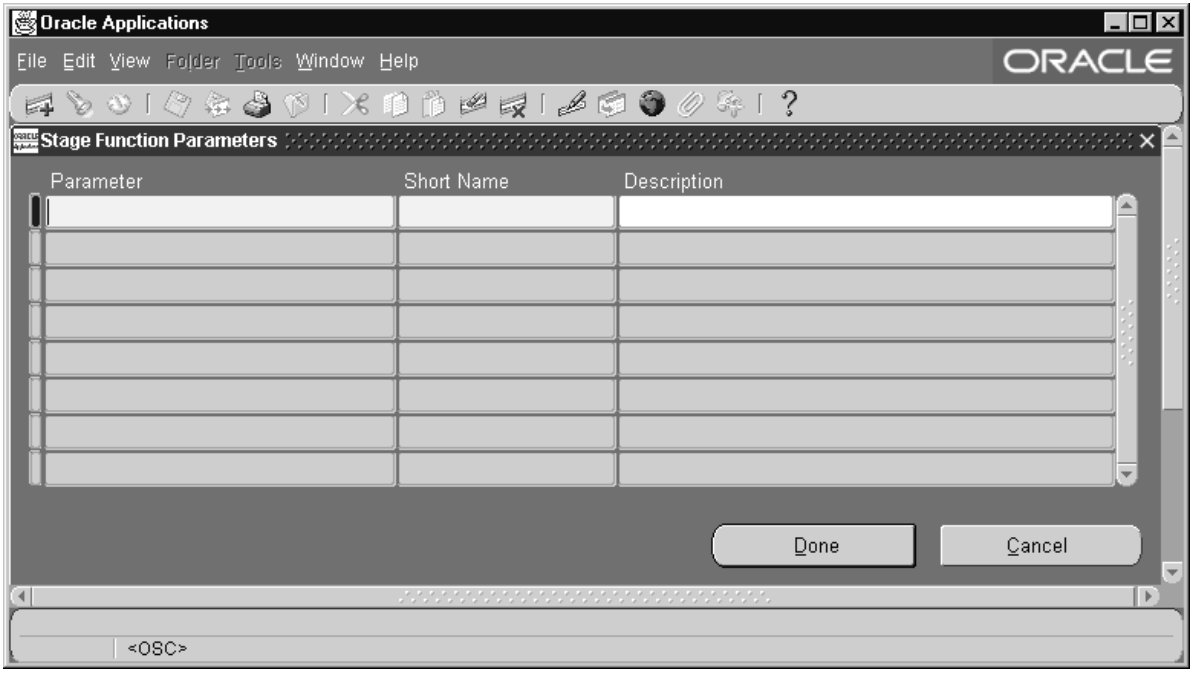
Only immediate programs or spawned programs using the Unified C API use the subroutine field.

We recommend against defining new immediate concurrent programs, and suggest you use either a PL/SQL Stored Procedure or a Spawned C Program instead.

Stage Function Parameters

The Stage Function Parameters button opens a window that allows you to enter parameters for the Request Set Stage Function. This button is only enabled when you select Request Set Stage Function as your Execution Method.

Stage Function Parameters Window



List the Parameters that your custom Stage Function uses.

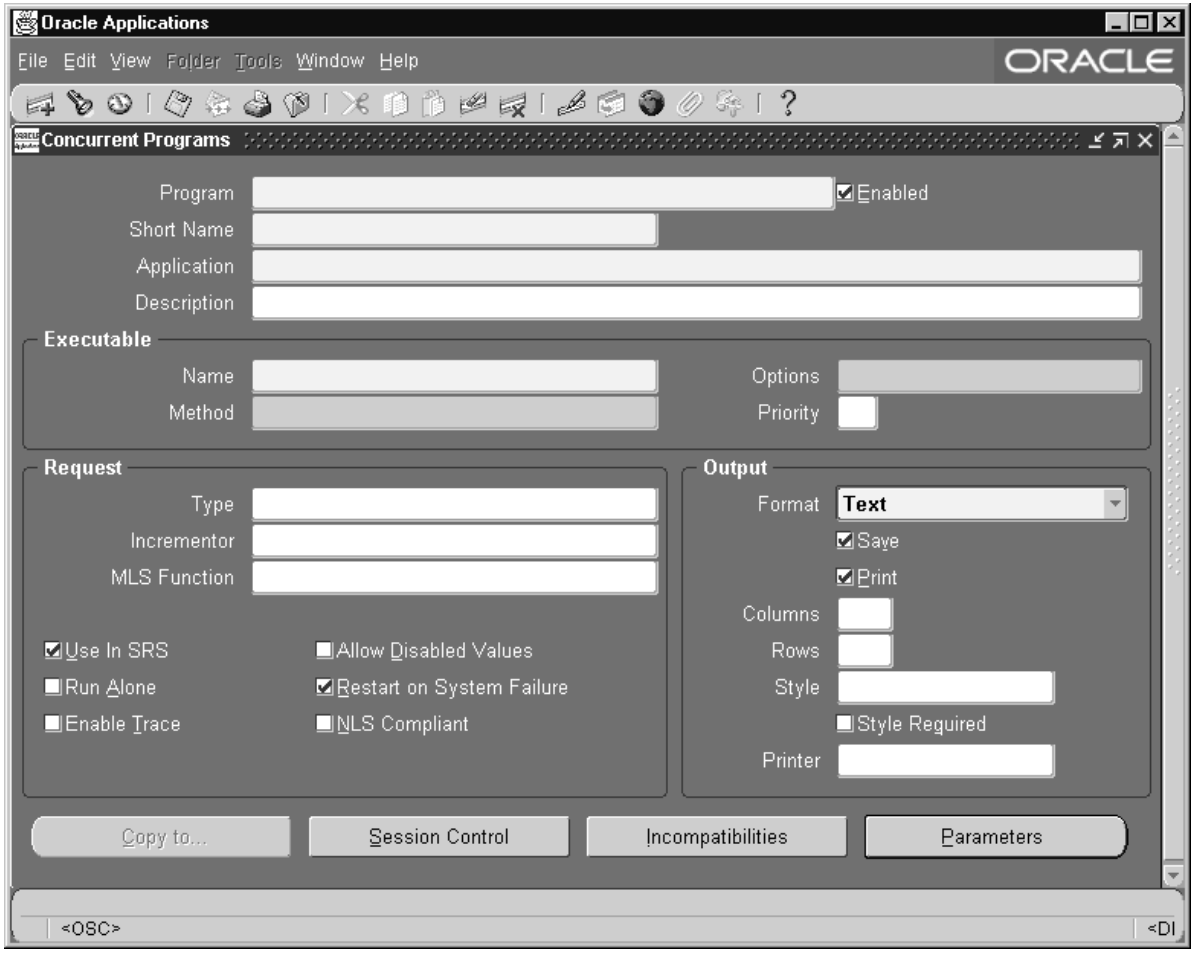
Parameter

Enter a name for the Parameter. This name will be displayed in the Stage Functions Parameter window of the Request Set form.

Short Name

Enter a short name that will be used by the function to reference the parameter.

Concurrent Programs Window



Use this window to define and modify your concurrent programs.

Prerequisites

- Build the execution file for your concurrent program.
- Use the Concurrent Program Executables window to define a concurrent program executable for your operating system program.

Concurrent Programs Block

The combination of application name plus program name uniquely identifies your concurrent program.

Program

You see this longer, more descriptive name when you view your requests in the Requests window. If this concurrent program runs through Standard Request Submission, you see this name in the Submit Requests window when you run this program.

Short Name

Enter a brief name that Oracle Applications can use to associate your concurrent program with a concurrent program executable.

Application

The program's application determines what ORACLE username your program runs in and where to place the log and output files.

Enabled

Indicate whether users should be able to submit requests to run this program and the concurrent managers should be able to run your program.

Disabled programs do not show up in users' lists, and do not appear in any concurrent manager queues. You cannot delete a concurrent program because its information helps to provide an audit trail.

Executable

Executable: Name

Select the concurrent program executable that can run your program. You define the executable using the Concurrent Program Executables window. You can define multiple concurrent programs using the same concurrent program executable. See: Concurrent Program Executables: page 4 – 61.

Executable: Options

Some execution methods, such as Oracle Reports, support additional execution options or parameters. You can enter such options in this field. The syntax varies depending on the execution method.

If you define a concurrent program with the bitmapped version of Oracle Reports, you can control the orientation of the bitmapped report

by passing the ORIENTATION parameter or token. For example, to generate a report with landscape orientation, specify the following option in the Options field:

```
ORIENTATION=LANDSCAPE
```

Do not put spaces before or after the execution options values. The parameters should be separated by only a *single* space. You can also specify an orientation of PORTRAIT.

You can control the dimensions of the generated output with the PAGESIZE parameter. A specified <*width*>x<*height*> in the Options field overrides the values specified in the report definition. For example:

```
ORIENTATION=LANDSCAPE PAGESIZE=8x11.5
```

The units for your width and height are determined by your Oracle Reports definition. You set the units in your Oracle Reports menu under Report => Global Properties => Unit of Measurement.

If the page size you specify with the PAGESIZE parameter is smaller than what the report was designed for, your report fails with a "REP–1212" error.

Executable: Method

The execution method your concurrent program uses appears here.

Valid values are:

Spawned	Your concurrent program is a stand–alone program in C or Pro*C.
Host	Your concurrent program is written in a script for your operating system.
Immediate	Your concurrent program is a subroutine written in C or Pro*C. Immediate programs are linked in with your concurrent manage and must be included in the manager's program library.
Oracle Reports	Your concurrent program is an Oracle Reports script.

PL/SQL Stored Procedure	Your concurrent program is a stored procedure written in PL / SQL.
Java Stored Procedure	Your concurrent program is a Java stored procedure.
Java Concurrent Program	Your concurrent program is a program written in Java.
Multi Language Function	A multi–language support function (MLS function) is a function that supports running concurrent programs in multiple languages. You should not choose a multi–language function in the Executable: Name field. If you have an MLS function for your program (in addition to an appropriate concurrent program executable), you specify it in the MLS Function field.
SQL*Loader	Your concurrent program is a SQL*Loader program.
SQL*Plus	Your concurrent program is a SQL*Plus or PL / SQL script.
Request Set Stage Function	PL / SQL Stored Function that can be used to calculate the completion statuses of request set stages.

You can switch between Spawned and Immediate, overriding the execution method defined in the Concurrent Program Executable window, only if either method appears when the executable is selected and both an execution file name and subroutine name have already been specified in the Concurrent Program Executable window. See: Concurrent Program Executables: page 4 – 61.

Priority

You can assign this program its own priority. The concurrent managers process requests for this program at the priority you assign here.

If you do not assign a priority, the user's profile option Concurrent:Priority sets the request's priority at submission time.

Request

Type

If you want to associate your program with a predefined request type, enter the name of the request type here. The request type can limit which concurrent managers can run your concurrent program.

Incrementor

For use by Oracle Applications internal developers only. The incrementor function is shown here.

MLS Function

The MLS function, if any, used by the program.

The Multilingual Concurrent Request feature allows a user to submit a request once to be run multiple times, each time in a different language. If this program utilizes this feature the MLS function determines which installed languages are needed for the request.

See:

Oracle Applications Developer's Guide

Use in SRS

Check this box to indicate that users can submit a request to run this program from a Standard Request Submission window.

If you check this box, you must register your program parameters, if any, in the Parameters window accessed from the button at the bottom of this window.

Allow Disabled Values

If you check the Use in SRS box, you can also check this box to allow a user to enter disabled or outdated values as parameter values.

Many value sets use special table columns that indicate whether a particular value is enabled (using ENABLED_FLAG, START_DATE_ACTIVE, and END_DATE_ACTIVE columns). These value sets normally allow you to query disabled or outdated values but not enter them in new data. For Standard Request Submission, this means that a user would not normally be allowed to enter disabled values as report parameter values when submitting a report, even if the report is a query–only type report.

Run Alone

Indicate whether your program should run alone relative to all other programs in the same logical database. If the execution of your program interferes with the execution of all other programs in the same logical database (in other words, if your program is incompatible with all programs in its logical database, including itself), it should run alone.

You can enter any specific incompatible programs in the Incompatible Programs windows.

Enable Trace

Turns on SQL tracing when program runs.

Restart on System Failure

Use this option to indicate that this concurrent program should automatically be restarted when the concurrent manager is restored after a system failure.

NLS Compliant

This box is checked if the program allows for a user to submit a request of this program that will reflect a language and territory that are different from the language and territory that the users are operating in.

For example, users can enter orders in English in the United Kingdom, using the date and number formats appropriate in the United Kingdom, then generate invoices in German using the date and number formats appropriate to their German customers.

If this box is left blank then a user can associate any installed language with the request, but the territory will default to the territory of the concurrent manager environment.

Note that this option should be set only by the developer of the program. The program must be written as NLS Compliant to utilize this feature. See: the *Oracle Applications Developer's Guide.*

Note that this option should be set only by the developer of the program. The program must be written as NLS Compliant to utilize this feature.

Output

Format

Select the output format from the following:

- HTML
- PCL (HP's Printer Control Language)
- PDF
- PS (Post Script)
- Text

Attention: If you choose HTML or PDF as the output type with Oracle Report programs, you must use an appropriate printer driver that handles HTML or PDF files.

Save

Indicate whether to automatically save the output from this program to an operating system file when it is run. This value becomes the default for all requests submitted for this program. The output of programs with Save set to No is deleted after printing.

If this is a Standard Request Submission program, users can override this value from the Submit Requests window.

Print

Enter Yes or No to indicate whether to allow the concurrent managers to print your program's output to a printer. If you enter No, your concurrent program's output is never sent to the printer.

Columns / Rows

Enter the minimum column and row length for this program's report output. Oracle Applications uses this information to determine which print styles can accommodate your report.

Style

The print style you select depends on your system and printer setup. Print styles include:

- 132 columns and 66 lines (Landscape)
- 180 columns and 66 lines (Landwide)
- 80 columns and 66 lines (Portrait)
- 132 columns and 62 lines (A4)

Your list is limited to those styles that meet your program's columns and row length requirements.

Style Required

If your program requires a specific print style (for example, a checkwriting report), use this check box to enforce that print style.

Printer

If you want to restrict your program's output to a single printer, enter the name of the printer to which you want to send your output. If your

program has minimum or maximum columns or rows defined, your list of values is limited to those printers that can support your program's requirements.

Users cannot override your choice of printer from the Submit Requests or Requests windows.

Concurrent Programs Buttons

Use these buttons to open detail windows for program incompatibilities your program parameters.

Copy to... Choose this button to create another concurrent program using the same executable, request and report information. You can elect to copy the incompatibility and parameter details as well.

Session Control Choose this window to specify options for the database session of the concurrent program when it is executed.

Incompatibilities Choose this button to open the Incompatible Programs window.

Parameters Choose this button to open the Concurrent Program Parameters window.

Copy to Window

Create another concurrent program using the same executable, request and report information as the current program. You can optionally copy the incompatibility and parameter details information as well.

See: Incompatible Programs Window: page 4 – 75

Session Control Window

Use this window to specify options for the database session of the concurrent program when it is executed.

Consumer Group

Optionally specify the resource consumer group for the concurrent program.

See: Resource Consumer Groups in Oracle Applications: page 8 – 7

Rollback Segment

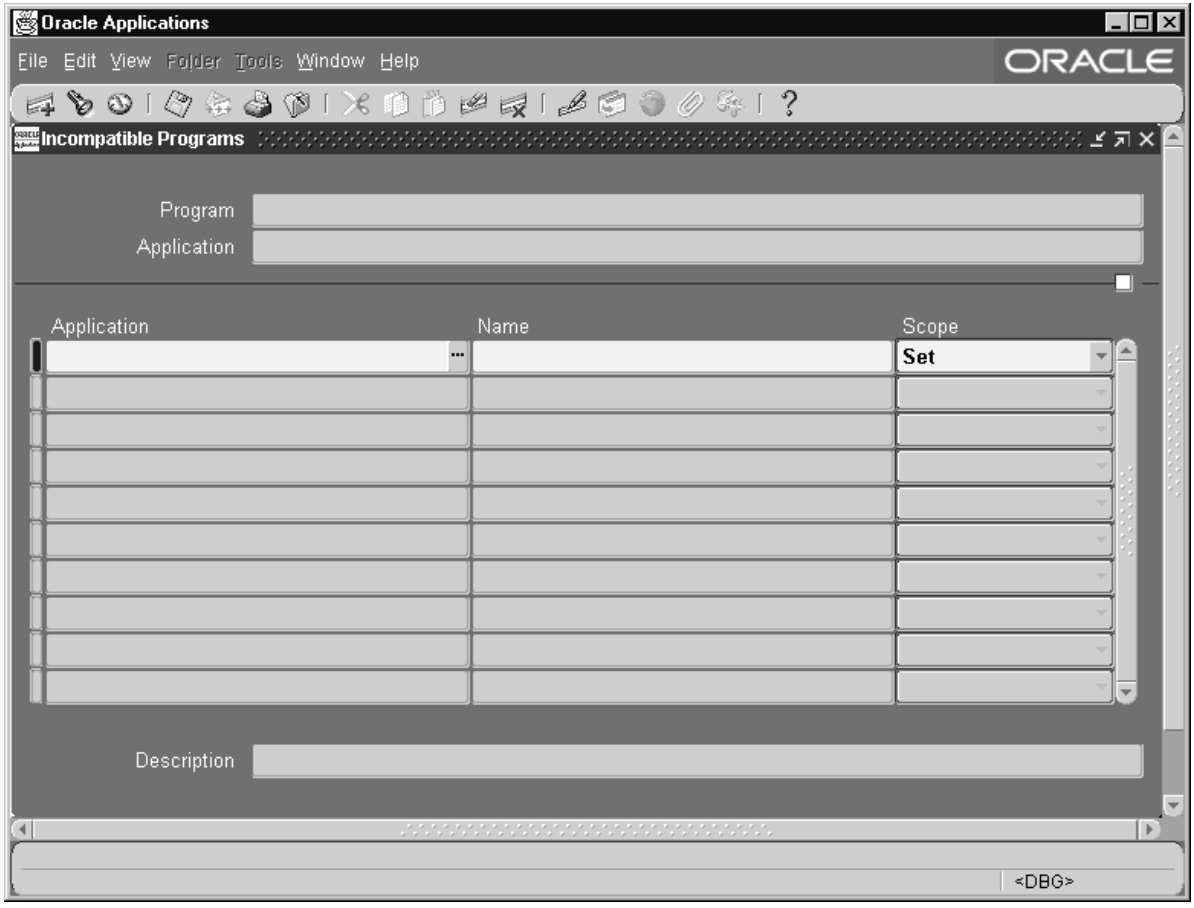
Optionally specify a rollback segment to be used with the concurrent program. This rollback segment will be used instead of the default and will be used up until the first commit.

Attention: If you specify a rollback segment here, your concurrent program must use the APIs FND_CONCURRENT.AF_COMMIT and FND_CONCURRENT.AF_ROLLBACK to use the specified rollback segment. See: the *Oracle Applications Developer's Guide*.

Optimizer Mode

Optionally specify an optimizer mode. You can choose ALL_ROWS, FIRST_ROWS, Rules, or Choose. You would specify an optimizer mode only for a custom program that may not perform well with the default cost–based optimizer (CBO) and needs tuning. You can use a different optimizer mode until your program is tuned for CBO.

Incompatible Programs Window



Identify programs that should not run simultaneously with your concurrent program because they might interfere with its execution. You can specify your program as being incompatible with itself.

Application

Although the default for this field is the application of your concurrent program, you can enter any valid application name.

Name

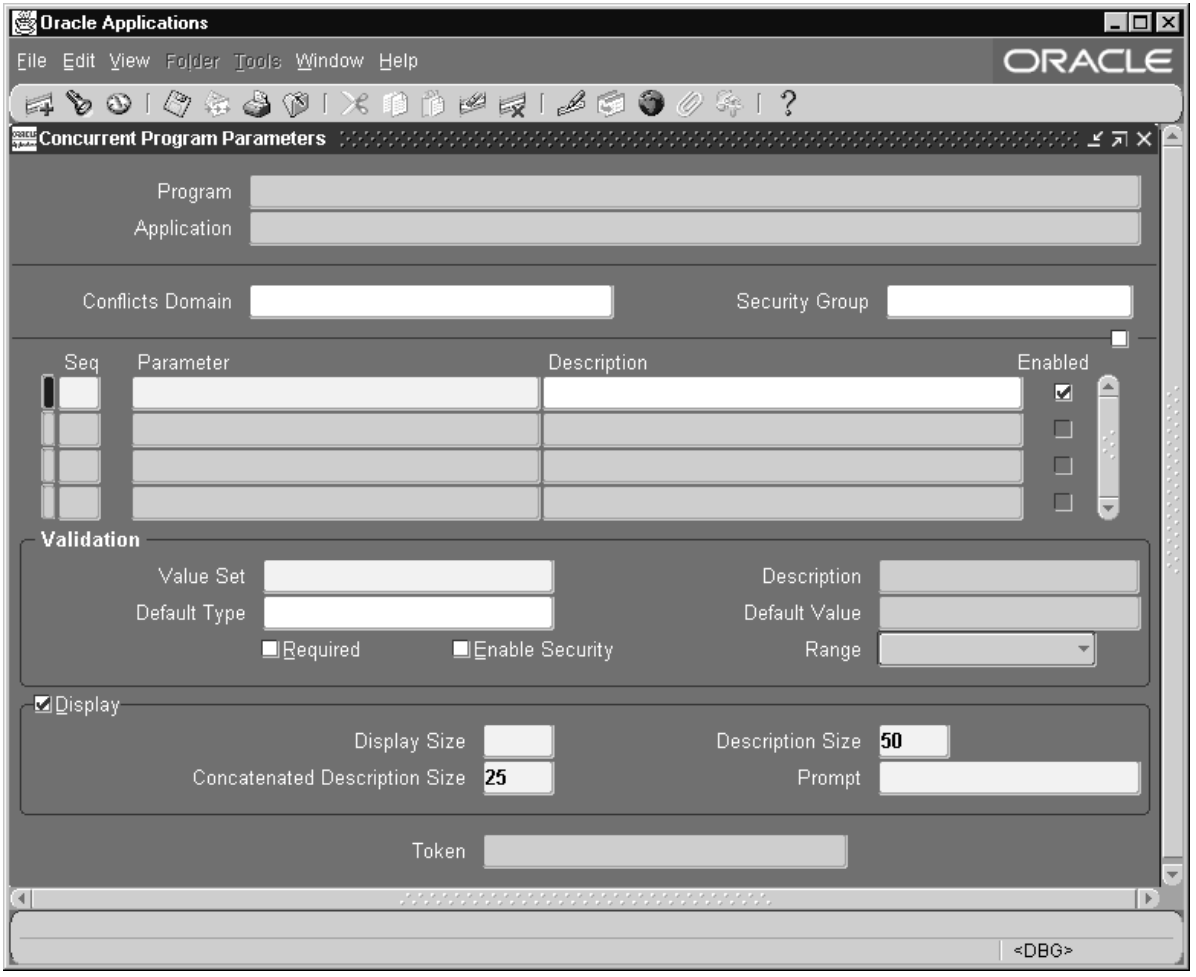
The program name and application you specify must uniquely identify a concurrent program.

Your list displays the user–friendly name of the program, the short name, and the description of the program.

Scope

Enter Set or Program Only to specify whether your concurrent program is incompatible with this program and all its child requests (Set) or only with this program (Program Only).

Concurrent Program Parameters Window



Enter and update the program parameters that you wish to pass to the program executable. Program parameters defined here should match the variables in your execution file.

Conflicts Domain Parameter

Enter the parameter which will hold the value of the conflict domain of the program. For information on conflict domain parameters, see Concurrent Conflict Domains: page 4 – 26.

Security Group

This field is for HRMS security only. See: *Customizing, Reporting, and System Administration in Oracle HRMS*.

Sequence

Choose the sequence numbers that specify the order in which your program receives parameter values from the concurrent manager.

Parameter

Enter the parameter name. The value is case insensitive.

Enabled

Disabled parameters do not display at request submission time and are not passed to your execution file.

Argument Detail

You specify information about your parameter almost exactly as you define a flexfield segment.

Validation Information

Value Set

Enter the name of the value set you want your parameter to use for validation. You can only select from independent, table, and non–validated value sets.

The maximum size of your value set is 240 characters.

Attention: If you are using a value set of dates, this value set should have a format type of either Standard Date or Standard DateTime if you are using the Multilingual Request feature.

Default Type

If you want to set a default value for this parameter, identify the type of value you need.

Valid types include:

Constant The default value can be any literal value.

Profile The default value is the current value in the user profile option defined in the Default Value field. Use the profile option name, not the end–user name. You do not need to include $PROFILE$.

SQL Statement The default value is determined by the SQL statement you defined in the Default Value field.

Segment The default value is the value entered in a prior segment of the same parameter window.

Default Value

You can enter a default value for the parameter. This default value for your parameter automatically appears when you enter your parameter window. You determine whether the default value is a constant or a context–dependent value by choosing the default type.

Your default value should be a valid value for your value set. Otherwise you see an error message when you enter your parameter window on the Run Request window and your default value does not appear.

Valid values for each default type include:

Constant Enter any literal value for the default value.

Profile The default value is the current value of the user profile option you specify here. Enter the profile option name, not the end–user name.

Segment The default value is the value entered in a prior segment of the same flexfield window. Enter the name of the segment whose value you want to copy.

SQL Statement The default value is determined by the SQL statement you enter here. Your SQL statement must return exactly one row and one column in all cases.

Required

If the program executable file requires an argument, you should require it for your concurrent program.

Enable Security

If the value set for this parameter does not allow security rules, then this field is display only. Otherwise you can elect to apply any security rules defined for this value set to affect your parameter list.

Range

Choose either Low or High if you want to validate your parameter value against the value of another parameter in this structure. Parameters with a range of Low must appear before parameters with a range of High (the low parameter must have a lower number than the high parameter). For example, if you plan two parameters named ”Start Date” and ”End Date,” you may want to force users to enter an end date later than the start date. You could assign ”Start Date” a range of Low and ”End Date” a range of High. In this example, the parameter you name ”Start Date” must appear before the parameter you name ”End Date.”

If you choose Low for one parameter, you must also choose High for another parameter in that structure (and vice versa). Otherwise you cannot commit your changes.

If your value set is of the type Pair, this field is display only. The value defaults to Pair.

Window Information

Display

Indicate whether to display this parameter in the Parameters window when a user submits a request to run the program from the Submit Requests window.

You should provide a default type and value for any non–displayed parameter.

Display Size

Enter the field length in characters for this parameter. The user sees and fills in the field in the Parameters window of the Submit Requests window.

You should ensure that the total of the value set maximum sizes (not the display sizes) for all of your parameters, plus the number of separators you need (number of parameters minus one), does not add up to more than 240. If your program values’ concatenated length exceeds 240, you may experience truncation of your data in some forms.

Description Size

Enter the display length in characters for the parameter value description. Your window may show fewer characters of your description than you specify here if there is not enough room (determined by the sum of your longest prompt plus your display size

for this parameter plus seven). However, your window does not display more characters of the description than you specify here.

Prompt

A user sees the prompt instead of the parameter name in the Parameters window of the Submit Requests window.

The default is the name of the parameter.

Concatenated Description Size

Enter the display length in characters for the parameter value description. The user sees the parameter value in the Parameter Description field of the Submit Requests and View Requests forms. The Parameter Description field concatenates all the parameter values for the concurrent program.

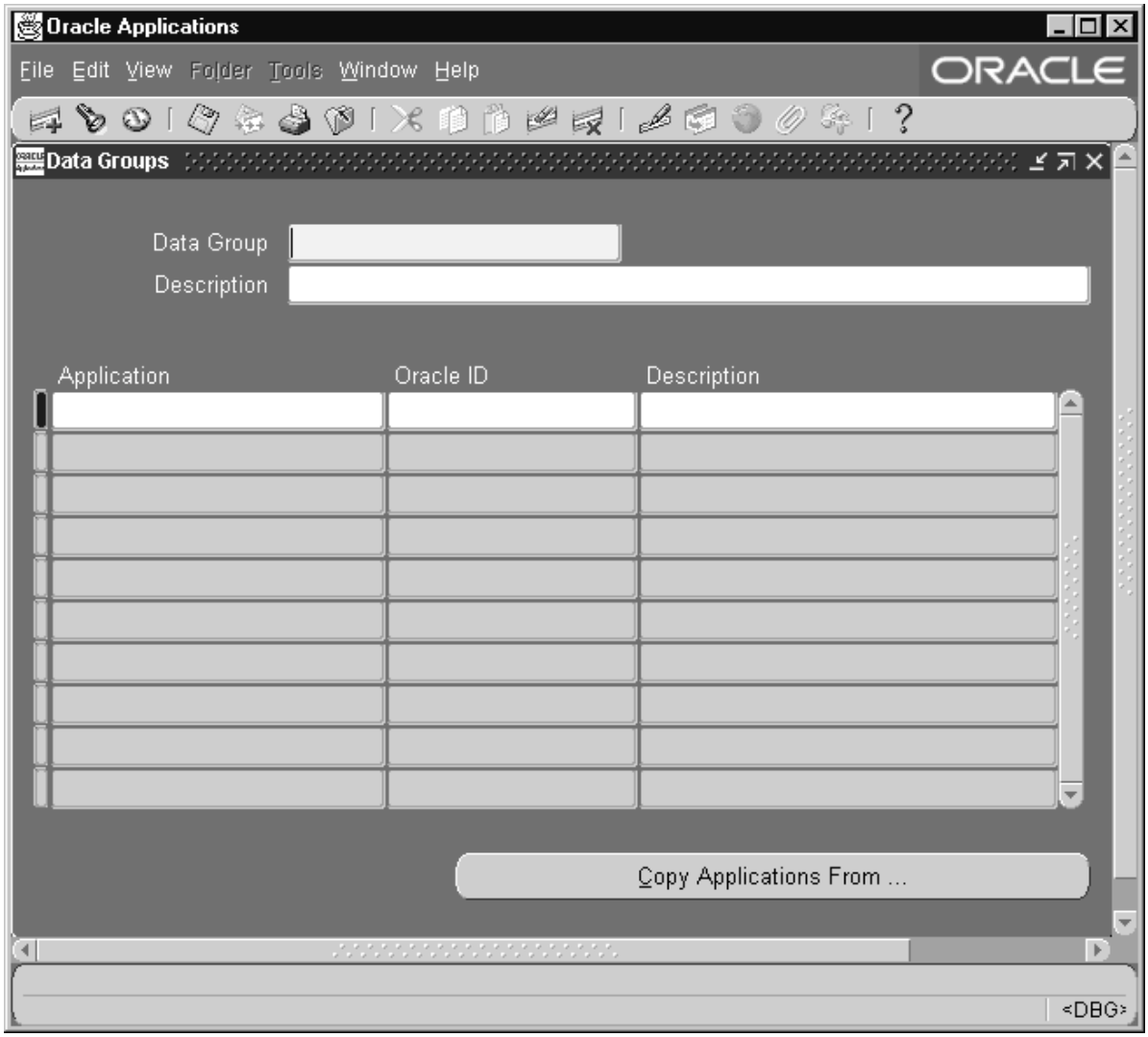
Suggestion: We recommend that you set the Concatenated Description Size for each of your parameters so that the total Concatenated Description Size for your program is 80 or less, since most video screens are 80 characters wide.

Token

For a parameter in an Oracle Reports program, the keyword or parameter appears here. The value is case insensitive. For other types of programs, you can skip this field.

See: Incompatible Programs Window: page 4 – 75

Data Groups Window



Use this window to define data groups. A data group is a list of Oracle Applications and the ORACLE usernames assigned to each application.

- If a custom application is developed with Oracle Application Object Library, it may be assigned an ORACLE username, registered with Oracle Applications, and included in a data group.

An ORACLE username allows access to an application's tables in an ORACLE database. All data groups automatically include an entry for Application Object Library.

- A concurrent manager running reports or programs under Oracle Applications refers to a data group to identify the ORACLE username it uses to access an application's tables in the database.
- Transaction managers running synchrous programs can only run programs submitted from responsibilities assigned the same data group as the transaction manager. If you create custom data groups, you should create new transaction managers for the applications that use transaction managers. Consult your product documenation to determine if your application uses transaction managers.

Each responsibility within Oracle Applications is assigned a data group.

During installation or upgrading of Oracle Applications, a standard data group is defined, pairing each installed application with an ORACLE username (note: a standard data group is defined for each set of books). You cannot change or delete the predefined values for *Application* or *ORACLE username* in a Standard data group. However, you may:

- Modify the Tool ORACLE username and description associated with an Application–ORACLE username pair.
- Add new Application–ORACLE username pairs to the group.

Data Groups Block

Create a new data group, or modify an existing data group.

You cannot change or delete the predefined values for *Application* or *ORACLE username* in a Standard data group. However, you may modify the Tool ORACLE username and description, or add new Application–ORACLE username pairs to a Standard group.

Data Group

A data group is uniquely identified by its name. You cannot create a data group with a name already in use.

Once saved, data group names cannot be edited.

Application–ORACLE ID Pairs Block

Pair applications with ORACLE usernames.

When you copy a data group, each application, its assigned ORACLE username, and, if present, its Tool ORACLE username and description, appear in this zone automatically. All data groups automatically include an entry for Application Object Library.

Application

Within each data group, an application can be listed only one time.

Oracle ID

Select the ORACLE ID you want to assign to an application. An application uses an ORACLE ID to access tables in the database. Each ORACLE ID allows access to a predefined set of tables in the database.

Each responsibility within Oracle Applications is assigned to a data group. When you sign on to Oracle Applications under a given responsibility:

- Each application's programs and reports access application tables in the database using the ORACLE username assigned to it in the responsibility's data group.

Copy Applications From...

Use this button to copy an existing data group, then add or delete application–ORACLE username pairs to create a new data group.

CHAPTER

5

Managing Concurrent Processing

This chapter explains concurrent processing in Oracle Applications and how you can manage programs running concurrently in the background while your users continue to perform online tasks.

The essays in this chapter are organized under the following topics:

- Overview of Concurrent Processing
- Reviewing Requests and Log Files
- Changing the Status of Concurrent Requests
- Managing Concurrent Processing Files and Tables
- Concurrent Processing User Profile Settings
- Defining Managers and their Work Shifts
- Specializing Managers to run only certain programs
- Grouping Programs as a Request Type
- Controlling Concurrent Managers
- Overview of Parallel Concurrent Processing
- Managing Parallel Concurrent Processing

Form descriptions follow at the end of the chapter.

Overview of Concurrent Processing

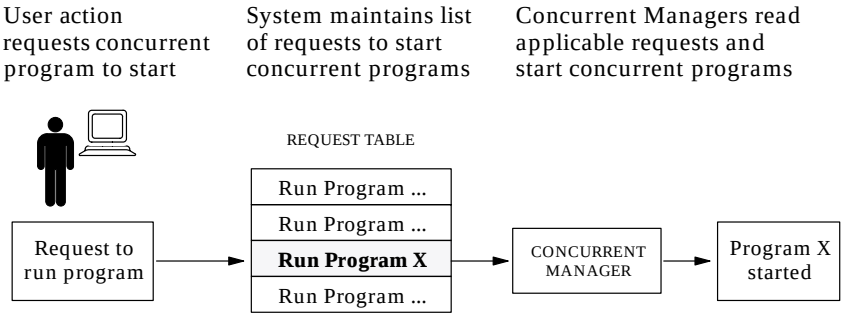
This section explains how a request to run a concurrent program is handled by Oracle Applications, and what the life cycle of a concurrent request is.

In Oracle Applications, concurrent processing simultaneously executes programs running in the background with online operations. As System Administrator, you can manage when programs are run and how many operating system processes Oracle Applications devotes to running programs in the background.

Concurrent Requests, Programs, and Processes

When a user runs a report, a request to run the report is generated. The command to run the report is a *concurrent request*. The program that generates the report is a *concurrent program*. Concurrent programs are started by a *concurrent manager.*

Figure 5 – 1


User action requests concurrent program to start
System maintains list of requests to start concurrent programs
Concurrent Managers read applicable requests and start concurrent programs
REQUEST TABLE
Run Program ...
Run Program ...
Run Program X
Run Program ...
Request to run program
CONCURRENT MANAGER
Program X started

Concurrent Managers start concurrent programs

Every time your users request a concurrent program to be run, their request is inserted into a database table, and is uniquely identified by a request ID. Concurrent managers read requests from this table.

Part of a manager's definition is how many operating system processes it can devote to running requests. This number is referred to as the manager's number of *target processes.*

Running concurrent programs

A concurrent program actually starts running based on:

- When it is scheduled to start
- Whether it is placed on hold,
- Whether it is incompatible (cannot run) with other programs
- Its request priority

Concurrent Request Priorities

The priority of a concurrent request is determined by application username, and is set by the System Administrator using the Concurrent:Priority user profile option.

The first available concurrent manager compares the request's priority to other requests it is eligible to process, and runs the request with the highest priority.

When choosing between requests of equal priority, the concurrent manager runs the oldest request first.

Parent requests and Child requests

Often, several programs may be grouped together, as in a request set. Submitting the request set as a whole generates a request ID, and as each member of the set is submitted it receives its own request ID. The set's request ID identifies the *Parent* request, and each of the individual programs' request ID identifies a *Child* request.

Life cycle of a concurrent request

A concurrent request proceeds through three, possibly four, life cycle stages or *phases:*

Pending	Request is waiting to be run
Running	Request is running
Completed	Request has finished
Inactive	Request cannot be run

Within each phase, a request's condition or *status* may change. The following table shows a listing of each phase and the various states that a concurrent request can go through.

Phase	Status	Description
PENDING	Normal	Request is waiting for the next available manager.
PENDING	Standby	Program to run request is incompatible with other program(s) currently running.

Table 5 – 1 (Page 1 of 2)

Phase	Status	Description
PENDING	Scheduled	Request is scheduled to start at a future time or date.
PENDING	Waiting	A child request is waiting for its Parent request to mark it ready to run. For example, a report in a report set that runs sequentially must wait for a prior report to complete.
RUNNING	Normal	Request is running normally.
RUNNING	Paused	Parent request pauses for all its child requests to complete. For example, a report set pauses for all reports in the set to complete.
RUNNING	Resuming	All requests submitted by the same parent request have completed running. The Parent request is waiting to be restarted.
RUNNING	Terminating	Running request is terminated, by selecting *Terminate* in the Status field of the Request Details zone.
COMPLETED	Normal	Request completes normally.
COMPLETED	Error	Request failed to complete successfully.
COMPLETED	Warning	Request completes with warnings. For example, a report is generated successfully but fails to print.
COMPLETED	Cancelled	Pending or Inactive request is cancelled, by selecting *Cancel* in the Status field of the Request Details zone.
COMPLETED	Terminated	Running request is terminated, by selecting *Terminate* in the Status field of the Request Details zone.
INACTIVE	Disabled	Program to run request is not enabled. Contact your system administrator.
INACTIVE	On Hold	Pending request is placed on hold, by selecting *Hold* in the Status field of the Request Details zone.
INACTIVE	No Manager	No manager is defined to run the request. Check with your system administrator.

Table 5 – 1 (Page 2 of 2)

Integration with Oracle Enterprise Manager

Oracle Applications has integrated its concurrent manager administrative interface with Oracle Enterprise Manager, thus enabling administrators to better manage their systems. Oracle Enterprise Manager provides a single point of administration for all available Oracle Applications instances on a system.

Oracle Enterprise Manager is a java–based framework consisting of multiple components that integrate into a powerful graphical user interface (GUI). Oracle Enterprise Manager combines a central console, agents, common services, and tools to provide an integrated, comprehensive system management platform for managing Oracle products.

For information on Enterprise Manager, see *Oracle Enterprise Manager Concepts Guide* and *Oracle Enterprise Manager Administrator's Guide.*

Oracle Applications Manager

Oracle Applications Manager is a new tool that extends the Applications system administration capabilities of Enterprise Manager. Oracle Applications Manager allows administrators to manage Concurrent Processing and Workflow for multiple Oracle Applications instances from a single console.

Using the Oracle Applications Manager, system administrators can monitor, start, and stop concurrent managers. They can also define concurrent managers and workshifts. System administrators can also view and control concurrent requests and view detailed information on the requests. For example, the console displays diagnostic information on requests such as request incompatibilities and available managers. The log files for concurrent manager and requests are also available from the console. Note that this new concurrent processing functionality is currently in addition to the multi–window Oracle Applications forms, and administrators can choose which tools they wish to use. Requests submitted within the standard Oracle Applications windows can be viewed from the Oracle Applications Manager console. Likewise, concurrent managers defined in the console can be accessed from within the Oracle Applications windows.

System administrators can also monitor Oracle Workflow processing. They can view a distribution of all Workflow item activities by status, and drill down to additional information on them. With the ability to monitor all activities, a system administrator can identify possible

bottlenecks easily. System administrators can also monitor notification activities in particular, monitor background engines and start new ones if necessary, and purge obsolete Workflow data.

Oracle Management Pack for Oracle Applications

The Oracle Management Pack for Oracle Applications (hereafter referred to as the Management Pack for Oracle Applications) extends Oracle Enterprise Manager to enable the monitoring, diagnosing, and capacity planning of the multi–tiered Oracle Applications environment.

Oracle Applications Manager

You can perform many tasks for several Oracle Applications instances from a single Oracle Applications Manager console. For example, you can access the statuses of all concurrent managers for a production instance and a test instance. You can view this information for one instance at a time.

The following information is available from the console:

- a summary of all requests and managers
- details on all concurrent managers
- details on your transaction managers
- details on all concurrent requests

You can also start and stop concurrent managers from the console.

You can define or edit the following:

- managers
- work shifts

You can view the following information for concurrent requests:

- details, including schedule and completion options
- diagnostics
- manager, log, and output files
- statistics
- available managers for requests that have not yet run

You install Oracle Applications Manager using the Universal Installer when you install Enterprise Manager. Refer to the Oracle Enterprise Manager and Oracle Applications Manager documentation for information on installation and configuration.

Oracle Management Pack for Oracle Applications

The Management Pack for Oracle Applications extends Oracle Enterprise Manager to enable the monitoring, diagnosing, and capacity planning of the multitiered Oracle Applications environment. The Management Pack for Oracle Applications takes advantage of the following Oracle Enterprise Manager system management features:

- Discovery and graphical representation of services to be monitored
- Starting tools from the console in the context of a specific service
- Automated data collection and management services
- Central monitoring and administration of remote systems using intelligent agents

The Management Pack for Oracle Applications extends the following tools to work with Oracle Applications:

- Oracle Enterprise Manager console

  The console is extended to discover concurrent managers and to notify you should any of the servers go down. You can also define jobs for any of the Oracle Applications subsystems, allowing central administration of a distributed Oracle Applications system.

- Oracle Applications Advanced Events

  A library of events specific to Oracle Applications are provided for lights–out event monitoring and problem detection of the Oracle Applications system. Additional lights–out problem resolution is provided with fix–it jobs that are configured to run automatically when an event triggers. These fix–it jobs are either custom–built or chosen from a small predefined set provided with the Management Pack for Oracle Applications.

- Oracle Performance Manager

  A new Oracle Applications data gatherer cartridge feeds data to Oracle Performance Manager, providing you with an extensive array of real–time monitoring charts on all concurrent managers and Forms sessions that are used by your Oracle Applications instance.

- Oracle Capacity Planner

Concurrent manager performance data is gathered over time and fed to Oracle Capacity Planner for analysis of resource consumption and detection of performance anomalies.

- Concurrent Processing Tuning Assistant

  This utility allows you to examine historical processing information about Oracle Concurrent Processing requests and concurrent managers.

For more information on the Management Pack for Oracle Applications, see *Getting Started with the Oracle Management Pack for Oracle Applications.*

Reviewing Requests, Request Log Files, and Report Output Files

This essay explains how you, as System Administrator, can view and change the status of concurrent requests, and how to view request log and report output files.

How To View Request Status and Output

Use any of the following methods to view the status and output of concurrent requests.

Use the Requests Window

Use the Requests window to view the status of concurrent requests, and to view request log and report output files.

The System Administrator and Oracle Alert Manager have a privileged version of the Requests window that provides you with more capabilities than your end users. For example, using the Requests window, you can view the status of and log files for *all* concurrent requests (not just your own), including requests that completed unsuccessfully. On some platforms, you can even view the log files of running requests.

Using the same window, you can view your own report output online. You cannot, however, view report output from other users' requests.

From the Requests window, you can also:

- place and remove holds from any pending or inactive request
- cancel a pending request, or terminate a running request
- change the priority of any pending request
- view the manager log file
- determine where *any* pending request stands in the queue for each manager defined to accept the request
- determine when the concurrent manager is inactive and needs to be restarted.

Run the Completed Concurrent Requests Report

You can run a report that lists parameters and any error messages associated with concurrent requests that have completed running. See: Completed Concurrent Requests Report: page 5– 36.

How to Modify Request Diagnostic Output

The Request Diagnostics window provides the user with request status information. This information consists of messages that explain the request's current status.

Collect Runtime Data

Set the profile option Concurrent:Collect Request Statistics to "Yes" to collect runtime statistics.

A concurrent request may be comprised of one or two processes: a Net8*i* shadow which consumes database server resources, and a front–end process such as a C executable. The time used by the CPU is collected for both of these types of processes.

Summarize and View Runtime Statistics

To review the statistics you must run the Purge Concurrent Request and / or Manager Data program to process the raw data and have it write the computed statistics to the FND_CONC_STAT_SUMMARY table. You can review the statistics on a request by request basis using the Diagnostics window from the Requests window.

Setting End User Report and Log File Access Privileges

The user profile option *Concurrent:Report Access Level* determines report output file and log file access privileges for your end users. As System Administrator, you can set this profile option to either "User" or "Responsibility."

All users can can review the log and report output files from requests that they submitted.

If you set the *Concurrent:Report Access Level* option to "Responsibility" at the User level, that user can also review the log and report output files from all requests submitted from the current responsibility.

If you set the *Concurrent:Report Access Level* option to "Responsibility" at the Responsibility level, any user of that responsibility can also view the log and report output files from all requests submitted by any other user of that responsibility.

Enabling the Report Review Agent

Oracle Applications uses a tool called the Report Review Agent to view concurrent request log and output files online.

Using the Report Review Agent, you can copy an entire report or log file to your PC, subject to restrictions you, as the System Administrator, impose on file transfer size. You can view a report one page at a time.

1. To set up the Report Review Agent, a database or computer administrator must modify the Net8*i* configuration. See the Release 11*i* *Installing Oracle Applications* manual for details on modifying your Net8*i* configuration.

2. Optionally, you can set each APPL_TOP to have its own Report Review Agent service using the RRA: Server Prefix profile. For example, test and production instances of Oracle Applications installed on a single machine will not have to share a report review agent service.

   In previous releases, Report Review Agent services were always named using the "FNDFS_nodename" convention. The RRA: Server Prefix profile allows system administrators to override the default server name prefix "FNDFS_".

   To override the default service name prefix of "FNDFS_", set the site level profile "RRA: Service Prefix" to the desired prefix. For example, if the profile "RRA: Service Prefix" is set to "PROD_", then the Report Review Agent services will be named "PROD_nodename" instead of "FNDFS_nodename".

   The value of the profile "RRA: Service Prefix" must be nine characters or fewer. We recommend that the last character be an underscore. Use only alphanumeric characters and underscores only. If the profile is null, then the prefix "FNDFS_" will be used.

3. When using a custom editor to view a concurrent output or log file, the Report Review Agent will make a "temporary" copy of the file on the client. Set the RRA:Delete Temporary Files profile to "Yes" to automatically delete these files when the user exits Oracle Applications. See: Defining the Reports Editor: page 5– 13, Profile Options in Oracle Application Object Library: page A – 2.

4. Set the RRA:Maximum Transfer Size profile option to specify, in bytes, the maximum allowable size of files transferred by the Report Review Agent, including those downloaded by a user with the "Copy File..." menu option in the Oracle Applications Report File Viewer and those "temporary" files which are automatically downloaded by custom editors.

   If this profile is null, there is no size limit. See: System Profile Values Window: page 10– 6.

5. Set up your directory tree so that the concurrent managers place all log and out file directories in the same parent directory. See the

Release 11*i Installing Oracle Applications* manual for your server platform for details on setting the necessary environment variables.

Briefly, you direct the concurrent managers to place log and report output files for all products in the same parent directory by setting the environment variable APPLCSF on the server to the directory where all log and output files should reside.

> **Note:** The APPLCSF environment variable is specific to your server. The APPLCSF variable is not used on the client.

6. Set the profile option Applications Web Agent to the base URL of the APPS schema's Web Application Server Database Access Descriptor (DAD).

   See: Applications Web Agent: page A – 3.

Defining the Reports Viewer

The Oracle Applications Report File Viewer is used by default for viewing your text report files. You can also display text files in a browser or use another application such as Microsoft Word. You define your default viewer by setting a profile option.

Set the Viewer:Text Profile Option

If the Viewer:Text profile option is set to "Browser" then reports are sent to a web browser. If this profile option is left blank, the Report File Viewer is used instead.

If this profile option is left blank, a report or log file can still be viewed in a browser by first viewing it using the Report File Viewer, and then choosing "Copy File..." from the Tools menu.

See:

Setting Your Personal User Profile
(*Oracle Applications User's Guide)*

System Profile Values Window: page 10– 6

See: Viewing Request Output and Log Files
(*Oracle Application's User's Guide)*

Viewing HTML Report Output

You can view your reports with HTML output in a browser. Once an HTML report has been sent to a browser, it can be saved to the desktop by using the Save As functionality of the browser.

Note: HTML reports are displayed by the browser in the character set of the server. This character set may or may not match the character set on the client. Therefore, it may be necessary to convert the output to the client character set when saving the report. If the browser supports character set conversion with Save As, there will be a poplist in the Save As dialog box. The user can then choose an encoding which matches the client character set.

Online Report Review using Other Applications

You can set up your Online Report Review implementation to enable viewing output files in other applications, such as Microsoft Word or Excel. To do this you associate MIME types with file output formats.

Users can then set their preferred MIME types for particular output formats using profile options, or the users may be prompted to choose the appropriate MIME type for a file at runtime.

You can register more than one MIME type file format with each output format. In the Viewer Options window, you enter in the file format, the MIME type, and a description. The description is displayed to the user in the Profile Values window and the Submit Request form. See: Viewer Options Window: page 5– 107.

When the report is viewed, it must first be sent to a browser. The browser then uses the associated MIME type to display the report.

Attention: For printing, if users choose either HTML or PDF as the output type with Oracle Report programs, they must use appropriate printer drivers to handle the PDF and HTML file for printing their output. See: Overview of Printers and Printing page: 6– 2.

Types of Log Files

Log files contain information about a concurrent program's execution, or a concurrent manager's activities. Log files are helpful when reviewing a problem request.

Log files are generated for all Completed concurrent requests.

There are three types of log files:

1. Request log files that document the execution of a concurrent program running as the result of a concurrent request. Every concurrent request generates a log file.

2. Manager Log files that document the performance of a concurrent manager that is running a request. The Manager Log file lists requests processed by a concurrent manager.
3. The Internal Concurrent Manager Log file that documents the performance of the Internal Concurrent Manager. It displays parameter values that are loaded when the Internal Concurrent Manager is started.

If a concurrent process ends in an error, you should review the log files to help diagnose the problem. You may also want to review the log files if a program's performance is questionable. For example, if a report runs very slowly or if it prints out data that you didn't expect.

The Internal Concurrent Manager Log file also records the time that each concurrent manager is started, and when each process monitor session or *pmon* cycle is initiated. During each pmon cycle, the Internal Concurrent Manager verifies the correct operation of each defined concurrent manager.

System Administrator Log File Privileges

Both you and your end users can review request log files and manager log files online. Only the System Administrator can display the Internal Concurrent Manager log file.

As System Administrator, you can use the Concurrent Requests and Administer Concurrent Program windows to view request and manager log files.

Operating System Access to Log Files

Log files are stored as standard operating system files in directories defined during the installation of Oracle Applications.

For example, Oracle General Ledger files are located using a path variable called $GL_TOP/$APPLLOG, or $APPLCSF/$APPLLOG, if the APPLCSF variable is set.

The complete path name to access an Oracle Applications log file depends on the operating system you are using. However, there are a number of file name conventions that are standard across all platforms.

Example – Request Log File name

For example, the log file naming convention in VMS and UNIX is the letter *L* (*l*), followed by the *concurrent request ID*, followed by the extension *.REQ* (*.req*). In the example below, the concurrent request ID is 64225.

VMS L64225.REQ

UNIX l64225.req

See: Concurrent Manager File Conventions
(Installing Oracle Applications)

Operating System Access to Concurrent Manager Log Files

Concurrent manager log files are located in the log directory under FND_TOP, the variable that contains the path name to Application Object Library Files, or under $APPLTOP / $APPLLOG.

The concurrent manager log file naming convention in UNIX is w*n*.mgr, where *n* is a number with up to 3 digits.

For most platforms, *n* is the Concurrent Process ID number assigned to the concurrent manager by the Internal Concurrent Manager, and is found in the Internal Concurrent Manager log file.

The log file name for the Internal Concurrent Manager is specified when you use the STARTMGR command from the operating system to start the concurrent managers.

See Also

Controlling the Internal Concurrent Manager from the Operating System: page 5– 60

Setting Up Concurrent Managers: page G – 42

Operating System Access to Report Output Files

Report output files generated by concurrent programs are stored as standard operating system files in directories defined during the installation of Oracle Applications.

Path name to Output Files

The complete path name to access an Oracle Applications report output file depends on the operating system you are using. However, there are a number of file name conventions that are standard across all platforms.

- Each output file name includes the unique request ID assigned by the concurrent processing facility.

Example – Report Output File name

For example, the output file naming convention in VMS and UNIX is *Application Username.Request ID*. Oracle Applications uses the first 8

characters of the application username in the output file name. In the example below, the application username is JSMITH and the concurrent request ID is 64225.

For example:

VMS and UNIX JSMITH.64225

See Also

Setting Up Concurrent Managers: page G – 42

Changing the Status of Concurrent Requests

This essay explains how to change a request's phase and status, and how to change the priority of a Pending or Inactive request.

Changing a Request's Phase and Status

A request is in one of four phases: Pending (waiting to be run), Running, Completed, or Inactive (unable to run). Within each phase, a request's condition is referred to as its status.

You can change the phase of a Pending, Running, or Inactive request by changing its status.

Pending and Inactive Requests

You may cancel Pending and Inactive requests. The request's phase and status becomes *Completed – Cancelled*.

You may place on hold Pending and Inactive requests. The request's phase and status becomes *Inactive – On Hold*. You can reverse this action by later selecting the request removing the hold.

Running Requests

You can terminate Running requests. The request's phase and status becomes *Completed – Terminated*.

Changing a Request's Status

You can change the status of a request, and its resulting phase, using the Requests window.

Changing the Priority of a Pending or Inactive request

Requests normally run according to start time, on "first–submitted, first–run" basis. However, a higher priority request starts before an earlier request.

As System Administrator, you can change the priority of any Pending or Inactive request using the Requests window.

Request Priority is associated with an application User

The priority of a user's requests defaults to the value you, as System Administrator, set for their *Concurrent:Priority* user profile option. Users cannot change the priority of their requests.

If a concurrent program has a defined priority, that priority overrides the user's profile option.

- Priorities range from 1 (highest) to 99 (lowest).
- The standard default is 50.
- Concurrent programs submitted by the Internal Concurrent Manager have a priority of zero (0), and override all other requests.

Suggestion: If you need to change the priority of a request frequently, you should consider assigning that concurrent program its own priority.

Managing Concurrent Processing Files and Tables

This section explains how to maintain the number of log and output files the operating system retains, and how to manage Application Object Library database tables that store information about concurrent requests and concurrent manager processes.

The database tables that are affected by running the Purge Concurrent Request and / or Manager Data program are:

FND_CONCURRENT_REQUESTS

This table contains a complete history of all concurrent requests.

FND_RUN_REQUESTS

When a user submits a report set, this table stores information about the reports in the report set and the parameter values for each report.

FND_CONC_REQUEST_ARGUMENTS

This table records arguments passed by the concurrent manager to each program it starts running.

FND_DUAL

This table records when requests do not update database tables.

FND_CONCURRENT_PROCESSES

This table records information about Oracle Applications and operating system processes.

FND_CONC_STAT_LIST

This table collects runtime performance statistics for concurrent requests.

FND_CONC_STAT_SUMMARY

This table contains the concurrent program performance statistics generated by the Purge Concurrent Request and / or Manager Data program. The Purge Concurrent Request and / or Manager Data program uses the data in FND_CONC_STAT_LIST to compute these statistics.

Maintenance Suggestions

Your MIS department and application users should agree on an archiving and file retention policy that is appropriate for your organization. To avoid running out of space on your disk drives, you should periodically delete Oracle Applications log files and output files.

Suggestion: You can run the program "Purge Concurrent Request and/or Manager Data" once and automatically resubmit the program for you at specific time intervals.

There are some sample guidelines for when to run the Purge Concurrent Requests and/or Manager Data program. Adopt these guidelines according to your user community's usage of Oracle Applications.

- every 30 days for normal usage
- every two weeks (14 days) for heavy usage
- if using the AGE mode, set the Mode Value to 5 to retain the five most recent days of concurrent request data, log files, and report output files.

Purging removes Audit data

When you purge concurrent request information, you lose audit details. The Signon Audit Concurrent Requests report uses this audit information.

Purge Concurrent Request and/or Manager Data Program

Use this program to delete:

- request log files, concurrent manager log files, and report output files from your product directories maintained by the operating system
- records (rows) from Application Object Library database tables that contain history information about concurrent requests and concurrent manager processes.

Use this program to compute performance statistics for each of the concurrent programs, if the Concurrent: Collect Request Statistics profile option is set to ”Yes”.

Report Options

Entity

All	Purges records from database tables that record history information for concurrent requests, history information for concurrent managers, and purges request log files, manager log files, and report output files from the operating system.
Manager	Purges records from database tables that record history information for concurrent managers, and purges manager log files from the operating system.
Request	Purges records from database tables that record history information for concurrent requests, and purges request log files and report output files from the operating system.

Mode

Age	Enter the number of days for which you want to save concurrent request history, log files, and report output files. The purge program deletes all records older (in days) than the number you enter. For example, if you enter ”5”, then all concurrent request history, log files, and report output files older than five days is purged.

Count

Enter the number of (most recent) records for which you want to save concurrent request history, log file, and report output files. The purge program starts from the most recent records, retains the number you enter, and purges all remaining records.

For example, if you enter ”5”, then the five most recent concurrent request history records, request log files, manager log files, report output files are saved, and all remaining records are purged.

Mode Value

Enter a value to define the number of days for Mode=Age or the number of records for Mode=Count. The valid values are 1 – 9999999.

Oracle ID

Enter the Oracle ID that concurrent programs connect to for which you want to purge concurrent request records, and associated log files and report output files. Oracle ID has relevance when the Entity is either ”Request” or ”All”.

For example, if you enter AP1, then the program purges all request records, log files, and report output files associated with requests to run programs that connect to the AP1 Oracle ID.

User Name

Enter the application username whose concurrent request records and associated log files and report output files you wish to purge. Username has relevance when the Entity is either ”Request” or ”All”.

For example, if you enter JSMITH, then the program purges all request records, log files, and report output files associated with requests submitted by user JSMITH.

Select the application associated with the responsibility for which you want to purge concurrent request records, and associated log files and report output files. Responsibility Application is used with the *Responsibility* option, and has relevance when the Entity is either ”Request” or ”All”.

Responsibility

Select the responsibility for which you want to purge concurrent request records, and associated log files and report output files.

Responsibility has relevance when the Entity is either ”Request” or ”All”.

For example, if you select the System Administrator responsibility, then the program purges all request records, log files, and report output files associated with requests submitted by users operating under the System Administrator responsibility.

Program Application

Select the application for which you want to purge concurrent request records, and associated log files and report output files. Program Application has relevance when the Entity is either ”Request” or ”All”.

For example, if you select Oracle Payables, then the program purges all request records, log files, and report output files associated with requests to run Oracle Payables programs.

Program

Select the program for which you want to purge concurrent request records, and associated log files and report output files. Program has relevance when the Entity is either ”Request” or ”All”.

For example, if you select Program X, then the purge program purges all request records, log files, and report output files associated with requests to run Program X.

Manager Application

Select the application associated with the concurrent manager for which you want to purge concurrent request records, and associated log files and report output files.

Manager Application is used with the *Manager* option, and has different effects when Entity is set to ”Request, and when Entity is set to ”Manager” or ”All”.

- When Entity is set to ”Request”, the program purges all request records, log files, and report output files associated with requests run by the concurrent manager named in the *Manager* option.
- When Entity is set to either ”Manager” or ”All”, in addition to the above, the program also purges all manager log files associated with the concurrent manager named in the *Manager* option.

Manager

Select the concurrent manager for which you want to purge concurrent request records, and associated log files and report output files.

Manager is used with the *Manager Application* option, and has different effects when Entity is set to ”Request,” and when Entity is set to ”Manager” or ”All”.

- When Entity is set to ”Request”, the program purges all request records, log files, and report output files associated with requests run by the concurrent manager named in the *Manager* option.
- When Entity is set to either ”Manager” or ”All”, in addition to the above, the program also purges all manager log files associated with the concurrent manager named in the *Manager* option.

Report

Select whether you want a report listing the number of records purged by the Purge Concurrent Request and / or Manager Data program.

No Run the program but do not generate a report.

Yes Run the program and generate a report.

Purge Other

Select whether you want to delete records from the FND_DUAL table.

No .Do not delete records from FND_DUAL.

Yes Delete records from FND_DUAL.

Concurrent Processing User Profile Settings

This essay explains the user profile option settings relevant to submitting concurrent requests.

Setting Concurrent Processing Options

End users can control certain runtime options for their concurrent requests. For example, you can choose a specific date on which to start a request.

If a user does not explicitly enter these options at the time of the request, concurrent processing options default to their user profile values.

As System Administrator, you set user profile values for your end users with the System Profile Values window. Both you and your end users can set some of your own profile values using the Personal Profile Values form.

Changing Concurrent Processing Options for submitted requests

You or your users can use the Requests window to change the concurrent processing options for a submitted request up until the time it starts running.

- As System Administrator you can change all concurrent options for any request.
- Your users can change most of their request's concurrent options.

  End users cannot change (nor set) the priority of their request, or the report access level for viewing request log files and report output files online.

See: Overview of Setting User Profiles: page 10– 2

The following table lists the concurrent processing user profile options and an explanation of each:

User Profile Option	Explanation
Concurrent: Hold Requests	"Yes" places concurrent requests on hold. "No" starts programs according to the request's priority and start time.
Concurrent: Multiple Time Zones	"Yes" ensures that requests are scheduled immediately regardless of the time zone your client is running in.

Table 5 – 2 (Page 1 of 2)

User Profile Option	Explanation
Concurrent: Report Access Level	Viewing a request's output/log files online and reprinting reports can be accessed according to: "Responsibility" – by anyone using the responsibility that submitted the request "User" – by only the user who submitted the request.
Concurrent: Report Copies	The number of output copies that print for each report.
Concurrent: Request Priority	Requests normally run according to start time, on a "first–submitted, first–run" basis. Priority overrides request start time. A higher priority request starts before an earlier request. Priorities range from 1 (highest) to 99 (lowest). The standard default is 50.
Concurrent: Request Start Time	The date and time requests are available to start running. If the start date and time is at or before the current date and time, requests may be run immediately.
Concurrent: Save Output	"Yes" saves concurrent program outputs in a standard file format. Some concurrent programs do not generate an output file.
Concurrent: Sequential Requests	"Yes" forces requests to run one at a time (sequentially) according to the requests' start dates and times. "No" means requests can run concurrently when their concurrent programs are compatible.
Concurrent: Wait for Available TM	You can specify the maximum number of seconds that the client will wait for a given transaction manager (TM) to become available before moving on to try a different TM.
Concurrent: URL Lifetime	This profile option determines the length of time in minutes a URL for a request ouput is retained before it is deleted from the system.
Printer	The printer which prints your reports.

Table 5 – 2 (Page 2 of 2)

Updating Concurrent Request Profile Options

Most concurrent user profile options may be set by the System Administrator at all four levels: site, application, responsibility, and user. The user profile *Concurrent:Report Access Level* may not be set at the application level.

Your users can change the default values for most of the concurrent processing profile options. However, they cannot set Concurrent: Request Priority, or Concurrent: Report Access Level.

Defining Managers and their Work Shifts

This essay explains how you can define concurrent managers and specify when a manager is enabled.

A concurrent manager is itself a concurrent program that starts other concurrent programs running. When an application user submits a request to run a program, the request is entered into a database table that lists all of the requests. Concurrent managers read requests from the table and start programs running. See: Concurrent Managers: page 5– 92.

In this essay, we explain how to specify when a manager is enabled, how to use managers to balance your applications processing workload across different time periods, and how to associate a library of immediate concurrent programs to be called by your manager.

Defining new managers

You can define as many concurrent managers as you want. When you define a manager, you:

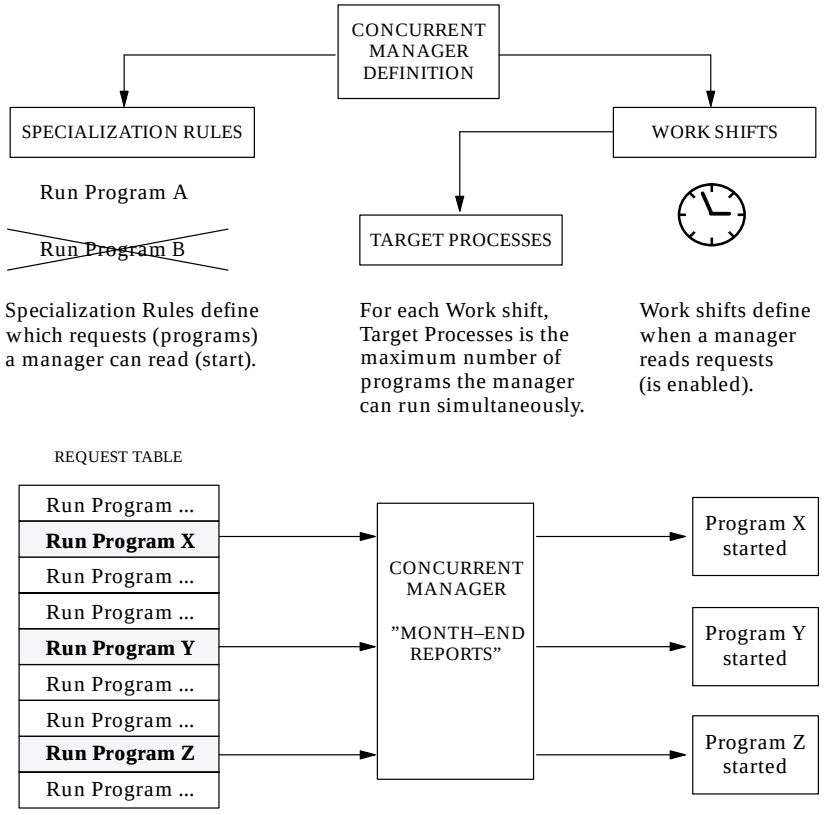
- Assign a predefined library of *immediate* concurrent programs to your manager.

  Immediate concurrent programs are subroutines associated with concurrent managers. All other concurrent programs are spawned as independent processes at run time.
- Assign work shifts to your manager, which determines what days and times the manager works.
- For each work shift, you define the maximum number of operating system processes the manager can run concurrently to read requests (start programs) during the work shift.
- Specialize your manager to read only certain kinds of requests.

Figure 5 – 2 illustrates the details of defining a concurrent manager.

Figure 5 – 2

Defining a Concurrent Manager


CONCURRENT MANAGER DEFINITION
SPECIALIZATION RULES
WORK SHIFTS
TARGET PROCESSES
Run Program A
Run Program B
Specialization Rules define which requests (programs) a manager can read (start).
For each Work shift, Target Processes is the maximum number of programs the manager can run simultaneously.
Work shifts define when a manager reads requests (is enabled).
REQUEST TABLE
Run Program ...
Run Program X
Run Program ...
Run Program ...
Run Program Y
Run Program ...
Run Program ...
Run Program Z
Run Program ...
CONCURRENT MANAGER
"MONTH–END REPORTS"
Program X started
Program Y started
Program Z started

Program Libraries

For a program that is spawned, a concurrent manager initiates or spawns another operating system process. A program that is immediate runs as part of the concurrent manager's operating system process.

A program library contains immediate concurrent programs that can be called by your manager.

An immediate concurrent program must be registered with a program library. Application developers using Oracle Application Object Library can register concurrent programs with a program library.

The Oracle Application Object Library FNDLIBR program library contains Oracle Applications immediate concurrent programs, and is

assigned to the Standard concurrent manager. In most cases, you will include the FNDLIBR library with your manager's definition.

The Internal and the Standard concurrent managers

Oracle System Administration predefines two managers for you:

- The Internal Concurrent Manager, which functions as the "boss" of all the other managers. The Internal Concurrent Manager starts up, verifies the status of, resets, and shuts down the individual managers.

  You cannot alter the definition of the Internal Concurrent Manager.

See: Defining Program Incompatibility Rules: page 4– 25

- A manager named Standard. The Standard manager accepts any and all requests; it has *no specialization*. The Standard manager is active all the time; it works 365 days a year, 24 hours a day.

Warning: You should not alter the definition of the Standard concurrent manager. If you do, and you have not defined additional managers to accept your requests, some programs may not run. Use the Standard manager as a safety net, a manager who is always available to run any request. Define additional managers to handle your installation site's specific needs.

Transaction Managers

While conventional concurrent managers let you execute long–running, data–intensive application programs *asynchronously*, transaction managers support *synchronous* processing of particular requests from client machines. A request from a client program to run a server–side program synchronously causes a transaction manager to run it immediately, and then to return a status to the client program.

Transaction managers are implemented as immediate concurrent programs. At runtime, concurrent processing starts a number of these managers. Rather than polling the concurrent requests table to determine what to do, a transaction manager waits to be signalled by a client program. The execution of the requested transaction program takes place on the server, transparent to the client and with minimal time delay. At the end of program execution, the client program is notified of the outcome by a completion message and a set of return values.

Communication with a transaction manager is automatic. The transaction manager mechanism does not establish an ongoing

connection between the client and the transaction manager processes. The intent of the mechanism is for a small pool of server processes to service a large number of clients with real–time response.

Each transaction manager can process only the programs contained in its program library. Oracle Applications developers using Oracle Application Object Library can register transaction programs with a program library.

A transaction manager is associated with a particular data group, and uses that data group to connect to the database. Transaction managers can only process requests submitted from responsibilities associated with the same data group.

If you create custom data groups, you should define new transaction managers (using the predefined program libraries associated with the seeded transaction managers) for each application in your data group that uses transaction managers.

Work Shift Definitions

When you define a concurrent manager, you assign one or more work shifts to it. Work shifts determine when the manager operates. You define work shifts using the Work Shifts form.

See:

Work Shifts: page 5– 100

Work Shift by Manager Report: page 5– 37

Work Shifts Report: page 5– 38

For example, you can define work shifts such as:

- 8:00am–5:00pm, Monday–Friday.
- 11:00am–1:00pm, Wednesday(s).
- 6:00pm–11:59pm, April 15, 2000.

You can define a work shift to run during the night, when most or all of your employees are at home asleep, and are not using their terminals. For example, you can define a work shift as:

- 2:00am–6:00am, Monday–Friday.

You can define a work shift to run twenty–four hours a day on a certain day or days of the week, or on a specific date. For example, you can define a work shift as:

- Monday–Friday.

- Wednesday(s).
- April 15, 2000.

You can define work shifts to use only on special occasions. For example, you can define a work shift named ”Inventory” to use when your company is conducting an inventory.

Disabling a work shift

If you define a period of time as a work shift, but do not necessarily want to use the work shift, you can:

- Not assign the work shift to a concurrent manager
- Assign the number of target processes for the work shift as zero (0), on the Define Manager form.
- Delete a work shift assignment using the Define Manager form.

Work Shifts and Hours of the Day

Work shifts can run twenty–four hours a day, from midnight till the next midnight. In military time this is defined as:

- 12:00am 00:00:00
- 11:59:59pm 23:59:59

Using work shifts to run through midnight

The military time clock for a twenty–four period starts and stops at midnight.

If you do not want a work shift to run twenty–four hours a day, but you do want to run programs continuously past 12:00 am, you must define two work shifts:

- The first work shift stops at 23:59 (11:59pm).
- The second work shift starts at 00:00 (12:00 am).

For example, you want to run some data–intensive programs during the night, when most of your employees are away from the job site. You define two work shifts which you assign to this manager.

- The first work shift starts at 20:00 (8:00pm) and stops at 23:59 (11:59pm).
- The second work shift starts at 00:00 (12:00am) and stops at 05:00 (5:00am).

Overlapping Work Shifts – Priority Levels

If you assign overlapping work shifts to a concurrent manager, the work shift with the **more specific time period** takes effect for the overlapping time period. For example, a work shift for July 4 overrides a work shift from 9:00 am to 5:00 pm on Monday through Friday.

The following table presents a descending list of priority levels for overlapping work shifts. A work shift with a specific date and range of times has the highest priority. The ”Standard” work shift has the lowest priority.

Priority	Work Shift Definition	Example
1	Specific date and range of times	April 15, 2000 8:00am–5:00pm
2	Specific date and no range of times	April 15, 2000
3	Range of days and range of times	Monday–Friday 8:00am–5:00pm
4	Range of days and no range of times	Monday–Friday
5	Range of times and no date and no range of days	8:00am–5:00pm
6	Standard work shift. No date, days, or time defined.	Standard work shift is 365 days a year, 24 hours a day.

Table 5 – 3 (Page 1 of 1)

Overlapping Work Shifts with the same priority

When you have overlapping work shifts that have the same level of priority, the work shift with the **largest target processes** takes effect.

For example, you have two work shifts with a range of days and a range of times. You have a ”Weekday” work shift from 9:00 am to 5:00 pm on Monday through Friday with 4 target processes.

You also have a ”Lunch” work shift from 11:00 am to 1:00 pm on Monday through Friday with 8 target processes.

The ”Lunch” work shift takes effect from 11:00 am to 1:00 pm (Mon.–Fri.) because it has the larger number of target processes.

Using Work Shifts to Balance Processing Workload

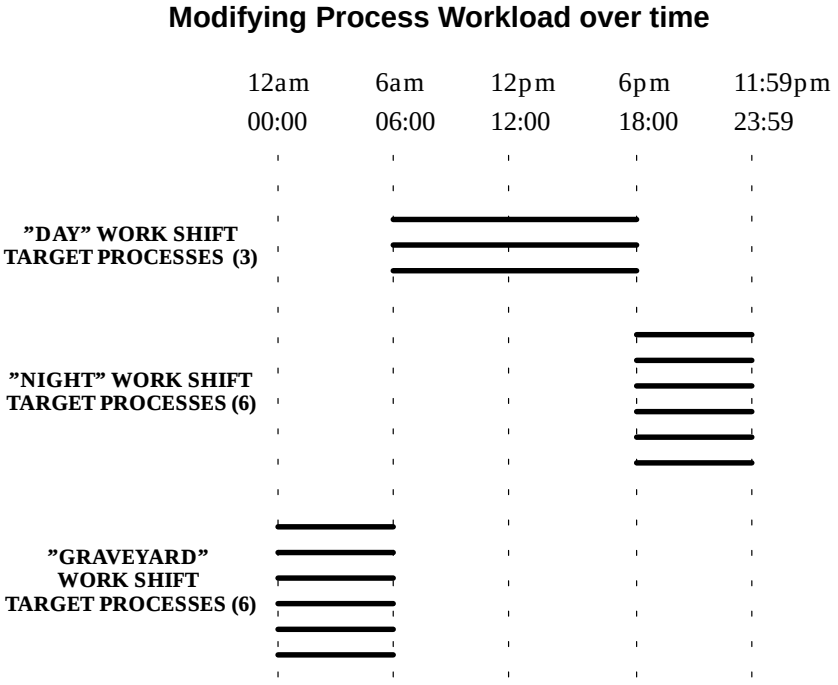
Part of a manager's definition is how many operating system processes it can devote to reading requests. For each of these processes, referred to as a *target process*, a manager can start one concurrent program.

For each work shift you assign to a manager, you define a number of target processes.

By using work shifts with different numbers of target processes, you can modify your concurrent processing workload according to the day, time of day, and even specific dates.

The figure below illustrates how, by using three work shifts, a manager can be defined to run three programs concurrently from 6:00am–6:00pm, and six programs concurrently from 6:00pm–6:00am.

Figure 5 – 3



Using Time–Based Queues

You can create several time–based queues by defining managers to run programs based on how long those programs have typically run in the

past. That is, you can specialize managers to segregate requests according to how long those requests take to run.

To do this, use the Completed Concurrent Requests Report in the System Administrator's report security group. This report lists the actual start date and time and actual completion date and time for concurrent programs that completed running. See: Completed Concurrent Requests Report: page 5– 36.

Suggestion: Run your concurrent programs at different times, perhaps, late at night and then again during the midafternoon, to determine processing time during different workload periods.

For example, based on actual time–to–completion, you can specialize different managers to run the following types of programs:

- inventory pick lists
- payable check runs
- postings
- invoice imports

Augment this approach by defining an "overflow" manager, for example, a manager who can accommodate programs directed to one (or more) of the managers above, but whose work shift is restricted to say, 2:00am–4:00am (02:00–04:00). If some of your long–running programs have not started running before the "overflow" work shift begins, then an additional manager is enabled to accommodate those programs.

Further augment this approach with an "exception" manager defined for *must have* requests. For example, a manager that can run:

- certain programs that must complete by a certain time. The "must–have" manager can be specialized to only read requests for certain programs.
- programs submitted by a particular user, for example, the Company Controller. You can specialize a manager to only read requests from a single application user. You can even define a second, higher–priority, username for a user to sign on with.

Completed Concurrent Requests Report

This report displays how long concurrent programs actually run. Use this report to segregate requests, based on their typical time–to–complete, by specializing concurrent managers to only read requests for certain programs.

Use this report to record parameters and error messages associated with concurrent programs that have been run.

Report Parameters

If you do not enter any parameters, the report returns values for all completed concurrent requests.

Program Application Name

Choose the application name associated with the program whose completed concurrent requests you wish to report on.

Choose only an application name, without a program name, if you wish to run a report on all completed concurrent requests associated with an application.

Program Name

Choose the name of a program whose completed concurrent requests you wish to report on. You must enter a value for Program Application Name before entering a value for Program Name.

User Name

Choose the name of an application user whose completed concurrent requests you wish to report on.

Start Date/End Date

Enter the start date and end date for your report.

Report Headings

The report headings list the specified parameters and provide you with general information about the contents of the report.

Work Shift by Manager Report

This report documents the work shifts assigned to each concurrent manager. Use the report when defining or editing concurrent managers.

Report Parameters

None.

Report Headings

The report headings provide you with general information about the contents of the report.

Work Shifts Report

This report documents all of your work shift definitions. Use this report when defining or editing concurrent manager work shifts.

Report Parameters

None.

Report Headings

The report headings provide you with general information about the contents of the report.

Specializing Managers to Run Only Certain Programs

This essay explains how you can specialize managers to run only certain programs.

Introduction to Specialization Rules

Every time your users request a concurrent program to be run, their request is inserted into a database table. Concurrent managers read requests from this table, and start running programs if the manager is defined to read the particular request.

Without specialization rules, a manager reads requests to start *any* concurrent program.

Using specialization rules, you can specialize a manager to read only certain kinds of requests to start concurrent programs, for example, only requests to start Oracle General Ledger programs, or only requests to start programs requested by the user "Fred". See: Concurrent Managers: page 5– 92.

A special type of specialization rule is the *combined* specialization rule, that can combine more than one action to define a single rule. See: Combined Specialization Rules: page 5– 102.

Defining Specialization Rules

A specialization rule associates an action with a type of request. There are two kinds of actions: Include and Exclude.

- Include defines a manager to only read requests of the type specified.
- Exclude defines a manager to read all requests except the type specified.

Requests to run concurrent programs may be allowed or disallowed on the basis of:

- the ORACLE ID of the request's Set of Books (for multiple installs) or Organization if you are using multiple organizations.
- the program itself or the program's application
- the request type of the program
- the user who submitted the request

- a combined rule, which combines more than one action to generate a single rule. The combined rule applies its actions to one or more types of request.

  For example, a combined rule can exclude an action from an Oracle ID and exclude another action from a specific program.

Using more than one rule

Each rule performs one action. When using more than one rule, the rules are evaluated as follows:

- Include rules are evaluated together using 'OR' statements as the binding logic.

  For example, If you use the rules:

  – Include X

  – Include Y

  The result of the rules allows the manager to run either X 'OR' Y but does not require that both programs be run.

- Exclude rules are evaluated together using 'AND' statements as the binding logic.

  For example, If you use the rules:

  – Exclude 1

  – Exclude 2.

  The result of the rules prohibits the manager from running programs 1 'AND' 2 together or separately.

- Include rules are evaluated first, then Exclude rules are evaluated. Include rule(s) and Exclude rule(s) are evaluated together as an AND statement. For example, (Include X OR Y) AND (Exclude 1 AND 2).

- An Exclude rule overrides an Include rule.

Specialization rule actions, their binding logic, and examples are presented in the following two tables. See: Specialization Rule Logic – Examples: page 5– 41.

Specialization Rule Logic – Examples

Include Rules	Result
Include *X*	Run only program X
Include *X* OR Include *User Sam*	Run program X ...or Run requests by User Sam Net result: Run everyone's requests for program X, and run all of Sam's requests.

Table 5 – 4 (Page 1 of 1)

Exclude Rules	Result
Exclude *37*	Do not run program 37
Exclude *37* AND Exclude *User Sam*	Do not run program 37 ...and Do not run requests by User Sam Net result: Do not run anyone's requests for program 37, and do not run any of Sam's requests.

Table 5 – 5 (Page 1 of 1)

Include and Exclude Rules	Result
Include *User Sam*	Run only requests by User Sam
AND	...and
Exclude *37*	Do not run program 37
	Net result: Run all of Sam's requests except requests to run program 37.
Include *X*	(Run program X
OR	...or
Include *User Sam*	Run requests by User Sam)
———— AND	...and
Exclude *37*	(Do not run program 37
AND	...and
Exclude *User Mary*	Do not run requests by User Mary)
	Net result: Run program X except when requested by Mary, and run all of Sam's requests except requests to run program 37.

The following table gives examples of the action types associated with specialization rules.

Rule Action	Type	Example	Explanation
INCLUDE	Combined Rule	Oracle Project Accounting – Tim's Budgets	Manager *only* reads requests to start programs defined by the Combined Rule "Tim's Budgets".
	ORACLE ID	APPS2	Manager *only* reads requests to start programs that connect to the APPS2 (a single install in a multiple install schema) Oracle ID.

Table 5 – 6 (Page 1 of 2)

Rule Action	Type	Example	Explanation
	Program	Oracle Project Accounting – Sales Forecast	Manager *only* reads requests to start the concurrent program named ”Sales Forecast”.
	Request Type	Oracle Inventory – Overnight Reports	Manager *only* reads requests to start programs belonging to the request type ”Overnight Reports”.
	User	Tim	Manager *only* reads requests to start programs submitted by the application user ”Tim”.
EXCLUDE	Combined Rule	Oracle General Ledger – Month End Reports	Manager reads *all* requests to start programs *except* those defined by the Combined Rule ”Month End Reports”.
	ORACLE ID	APPS2	Manager reads *all* requests to start programs *except* those that connect to the APPS2 Oracle ID.
	Program	Application Object Library – Purge Audit Tables	Manager reads *all* requests to start programs *except* requests for the program named ”Purge Audit Tables”.
	Request Type	Oracle Purchasing – Weekend Programs	Manager reads *all* requests to start programs *except* those belonging to the request type ”Weekend Programs”.
	User	Margaret	Manager reads *all* requests to start programs *except* those submitted by the application user ”Margaret”.

Table 5 – 6 (Page 2 of 2)

Examples – Using Specialization Rules

Following are examples of using specialization rules to define what requests a concurrent manager can read. When multiple rules are used to specialize a manager, the words OR and AND appear between each rule to clarify the relationship among multiple specialization rules.

Using Include and Exclude actions

Include Program – Oracle Assets, *No entry for Name field.*

Result	The manager only reads requests to run concurrent programs for the application ”Oracle Assets”.
Include	Program – Oracle Assets, *No entry for Name field.*
OR	
Include	Program – Oracle Payables, *No entry for Name field.*
Net Result	The manager only reads requests to run concurrent programs for the application ”Oracle Assets”, or for the application ”Oracle Payables”. The use of multiple Include actions expands the manager’s ability to read requests beyond that of a single Program (single Include action).
Exclude	Oracle ID – APPS2
Result	The manager reads requests to run concurrent programs that connect to any Oracle ID, except those programs that connect to Oracle ID “APPS2”.
Exclude	Oracle ID – APPS2
AND	
Exclude	Program – Oracle Payables, *No entry for Name field.*
Net Result	The manager reads requests to run concurrent programs that connect to any Oracle ID, except programs that connect to Oracle ID “APPS2”, and programs for the application ”Oracle Payables”.

Simplify your work

Multiple rules may not always be necessary, or the number or complexity of rules can be simplified. Consider the example below.

Include	Program – Oracle Sales and Marketing, *No entry for Name field.*
OR	
Include	Request Type – Sales Forecasts
Net Result	The manager only reads requests to run concurrent programs for the application “Oracle Sales and Marketing”, or programs whose request type is “Sales Forecasts”. In this example, both rules are not necessary when programs belonging to the request type “Sales

Forecasts" all connect to the Oracle ID "OSM". There is no need for the second Type Include rule.

Exclude rules override Include rules

Include	Program – Oracle Payables, *No entry for Name field.*
AND	
Exclude	Program – Oracle Payables Invoice Aging Report
Net Result	The manager reads all requests for concurrent programs for the application "Oracle Payables", but does not read requests to run the Oracle Payables program "Invoice Aging Report".

Include	Program – Signon Audit Forms
AND	
Exclude	Request Type – Signon Audit Reports
Net Result	If the System Administrator program Signon Audit Forms belongs to the Request Type "Signon Audit Reports", the manager will not read requests to run the program, even though it has been specifically identified by an Include rule. The Exclude rule overrides the Include rule.

Specializing to only run a Program against specific Oracle IDs

In the following example, a manager can be specialized to only run a program against a specific Oracle ID. This is useful when there are multiple installations of an Oracle Application.

Include	Program – Oracle Payables Invoice Aging Report
AND	
Exclude	Oracle ID – APPS2
Net Result	The manager only reads requests to run the Oracle Payables program "Invoice Aging Report" when the program does not connect to the Oracle ID "APPS2". The Exclude action overrides the Include action. However, when the Invoice Aging Report runs against another Oracle ID, for example, "APPS", then this manager will read requests to run the

program. This is useful when working with multiple installations of an application and data groups.

Distinguishing a Program from a Request Type

You can specialize a manager to read requests to run all the programs belonging to a Request Type, except for individual programs you wish to identify.

Include	Request Type – Oracle General Ledger Reports
AND	
Exclude	Program – Oracle General Ledger Account Analysis
Net Result	If the Account Analysis program belongs to the request type Oracle General Ledger "Reports", then this manager will run every program in the request type Oracle General Ledger Reports, except the program Account Analysis.

Preventing specific programs from running

You can use an Exclude action more than once. For example, suppose your manager reads all requests to run concurrent programs for a particular application, but you want to prevent your manager from running two specific programs. You can:

Include	Program – Oracle General Ledger, N*o entry for Name field.*
AND	
Exclude	Program – Oracle General Ledger Consolidation Audit
AND	
Exclude	Program – Oracle General Ledger Consolidation Rules
Net Result	The manager reads requests for any concurrent programs for the application "Oracle General Ledger", except for the programs "Consolidation Audit" and "Consolidation Rules".

Specializing to run only specific programs at certain times

Using multiple Include rules, you can specialize a manager to run only specific programs. Then, when you define the manager's work shift,

you can control when the manager reads requests to run the specific programs.

Include Program – Oracle Payables Invoice Aging Report

OR

Include Program – Oracle Purchasing Receipt Accruals

Net Result The manager only reads requests to run the Oracle Payables Invoice Aging Report, or the Oracle Purchasing Receipt Accruals program.

Suggestion: If you only wanted these two reports run during the night you can define the manager's work shift to run from 2:00am–6:00am (02:00–06:00).

Suggestion: When you first submit the requests to run the programs, you can define a resubmission interval, for example, 1 month, to resubmit the programs to run every month.

Specializing according to application User

You can specialize managers to only read requests from specific users.

Include User – Markus Kalkin

Net Result The manager only reads requests submitted by the application user "Markus Kalkin".

Include User – Markus Kalkin

OR

Include Program – Oracle Inventory Process Demand Interface

OR

Include Program – Oracle Inventory Summarize Demand Histories

Net Result The manager reads both requests submitted by user Markus Kalkin and requests to run the Oracle Inventory programs "Process Demand Interface" and "Summarize Demand Histories".

Suggestion: If you want specific programs submitted by a specific user to "jump ahead" of other requests waiting to be run, you can define and specialize a manager as in the example above, and set the user profile option Concurrent:Priority for the user to a high priority (Concurrent:Priority sets the priority of requests submitted by the user).

– Define a manager and give it a descriptive name.

– Specialize the manager as in the example above.

– Set the user profile option Concurrent:Priority for user Markus to 10.

Defining Combined Specialization Rules

A combined specialization rule combines more than one action to generate a single rule. The actions are combined as AND statements so that the rule is defined as:

Action 1 AND . . .

Action 2 AND . . .

Action 3 AND . . . so on.

You can create combined rules and use them with several managers, instead of duplicating a complex rule each time.

There are two kinds of Actions you may use to build a combined rule; Exclude and Include. Each action is defined by one line within the rule. Combining the specialization lines or individual actions defines the overall combined rule.

An Exclude action overrides a Include action.

For example, you can define an Exclude *application program x* action and a Include *user Yvonne Jones* action. Combining these two actions generates the combined rule ”read all requests from user Yvonne Jones except requests to run program x”. See: Combined Specialization Rules: page 5– 102.

Combined specialization rule actions, their binding logic, and examples are presented in the following table.

Combination Rule Include Lines	Result
Include *Program X*	Run only program X
Include *Program X* AND Include *User Sam*	Run program X ...and Run requests by User Sam Net result: Run only Sam's requests for program X.

Table 5 – 8 (Page 1 of 1)

Combination Rule Exclude Lines	Result
Exclude *Program 37*	Do not run program 37
Exclude *Program 37* AND Exclude *User Sam*	Do not run program 37 ...and Do not run requests by User Sam Net result: Do not run anyone's requests for program 37, and do not run Sam's requests.

Table 5 – 7 (Page 1 of 1)

Combination Rule Include and Exclude Lines	Result
Include *User Sam*	Run requests by User Sam
AND	...and
Exclude *Program 37*	Do not run program 37
	Net result: Run all of Sam's requests except requests to run program 37.
Include *Program Application General Ledger*	(Run General Ledger Programs
AND	...and
Include *User Sam*	Run requests by User Sam)
———— AND	...and
Exclude *Program 37*	(Do not run program 37
AND	...and
Exclude *Program 38*	Do not run program 38)
	Net result: Run Sam's requests for programs from the application General Ledger, except programs 37 and 38.

Table 5 – 8 (Page 1 of 1)

Using Combined Rules

Using combined rules you can precisely specialize a manager.

A combined rule combines more than one action to generate a single rule. Each action is defined by one line within the rule. Combining the lines or individual actions defines the overall combined rule.

Suggestion: You can use a combined specialization rule as one of many rules to specialize a manager.

Using single Exclude and Include actions

A single Exclude action within a combined rule acts the same way as a single Exclude action that defines a specialization rule. Both instruct a manager to read *all* requests to run concurrent programs *except* those identified by the action.

Exclude Oracle ID – APPS

Result The manager reads requests to run concurrent programs that connect to any Oracle ID, except those programs that connect to Oracle ID "APPS".

A single Include action within a combined rule acts the same way as a single Include action that defines a specialization rule. Both actions instruct a manager to read *only* the requests that satisfy the action.

Include Oracle ID – APPS2

Result The manager only reads requests to run concurrent programs that connect to Oracle ID "APPS2".

Using multiple Exclude actions

Using multiple Exclude actions as multiple lines within a combined rule is equivalent to using multiple Exclude actions as multiple specialization rules.

You can exclude more kinds of requests by adding more Exclude lines to your combined rule.

Exclude Program – Oracle Sales & Marketing, *No entry for Name field.*

AND

Exclude Program – Oracle Inventory, *No entry for Name field.*

Net Result The manager reads all requests to run concurrent programs *except requests for* programs for the application "Oracle Sales & Marketing", *and requests for* programs for the application "Oracle Inventory".

Using multiple Include actions

Using multiple Include actions adds more requirements to a combined rule, and excludes more kinds of requests.

You cannot use two Include actions for the same action type. Each Include action is an exclusive statement for a particular type of action. For example, you cannot require a request to be for a program that connects to two different Oracle IDs.

Include	Program – Oracle Payables, *No entry for Name field.*
AND	
Include	Program – Oracle Payables Confirm Receipt Batch
Net Result	The manager only reads requests to run a single program, *Confirm Receipt Batch*, and only if that program is from the application ”Oracle Payables”.

Using Exclude and Include actions

You cannot use Exclude and Include actions for the same type of action. Each Include action is an exclusive statement for a particular type of action.

For example, it does not make sense to *require* a request to be for a program that connects to the Oracle ID “APPS” and disallow a request to connect to another Oracle ID.

Exclude overrides Include

When using multiple lines within a Combined Rule, the Exclude action always overrides a Include action.

Include	Program – Oracle Payables Invoice Import
AND	
Exclude	Oracle ID – APPS2
Net Result	The manager reads requests to run the Oracle Payables Invoice Import program, but will not run the program when it connects to the Oracle ID “APPS2”. The Exclude action overrides the Include action.

Specializing a manager to run one program submitted by one user

You can define a combined rule that instructs a manager to only read requests to run a single program when submitted by a specific user.

Include	User – Sheryl
AND	
Include	Program – Oracle Project Accounting Distribute Usage Costs
Net Result	The manager only reads requests submitted by Sheryl to run the Distribute Usage Costs program.

Restricting the programs a manager will run for a specific user

You can define a combined rule that instructs a manager to ignore requests to run a certain programs when submitted by a specific user.

Include	User – Sheryl
AND	
Exclude	Program – Oracle Project Accounting Expenditure Status
Net Result	The manager only reads requests submitted by Sheryl, excluding requests to run the Oracle Project Accounting program *Accounting Expenditure Status*.

Specifying Oracle ID and excluding a program from a request type

Include	Request Type – Oracle Project Accounting Expenditure Reports
AND	
Include	Oracle ID – APPS2
AND	
Exclude	Program – Oracle Project Accounting Expenditure Status
Net Result	The manager only reads requests to run programs belonging to the Oracle Project Accounting request type “Reports”, run against the Oracle ID “APPS2”, excluding the program *Expenditure Reports*.

Differences Between Specialization and Combined Rules

The primary difference between a specialization rule and a combined specialization rule is in how the use of multiple actions affects the outcome of the rule, as described in the following table:

Rule	Action	Effect of Multiple Actions	Relationship to Other Rules
Specialization Rule	INCLUDE	With each additional Include rule, the manager can read MORE REQUESTS.	Each rule establishes an OR condition. *OR...INCLUDE...*
	EXCLUDE	With each additional Exclude rule, the manager is excluded from, and reads, FEWER REQUESTS.	Each rule establishes an AND condition. *AND...EXCLUDE...*
Combined Rule Specialization Line	EXCLUDE	With each additional Exclude line, the manager is excluded from, and reads, FEWER REQUESTS.	Each line within a rule establishes an AND condition. *AND...EXCLUDE...*
	INCLUDE	With each additional Include line or additional requirement, the manager reads FEWER REQUESTS.	Each line within a rule establishes an AND condition. *AND...INCLUDE...*

Table 5 – 9 (Page 1 of 1)

Grouping Programs by Request Type

As System Administrator, you may want to group similar programs together. You do this by defining request types and assigning them to the programs that users request in Oracle Applications. You can define concurrent managers that only run programs that belong to a particular request type.

Using request types to specialize concurrent managers can help optimize the processing of Oracle Applications, by letting certain types of programs run without having to wait for other types of programs to finish processing. Using request types saves you time when you create a concurrent manager's specialization rules.

Using Request Types

Specializing a concurrent manage by request type involves three steps:

1. Define a Request Type using the Concurrent Request Types form.
2. Assign the Request Type to each concurrent program you want to identify as a member of this request type using the Concurrent Programs form.
3. Select the Request Type when you specialize a concurrent manager using the Concurrent Managers form.

Examples of using Request Types

Some example request types you may want to define are:

Quick — For concurrent programs that take a relatively short time to run.

Overnight — For concurrent programs that take a long time to run, which you typically schedule to run during the late night or early morning hours.

Month–End Reports — For concurrent programs that generate reports you run at the end of each month.

For example, if you run ten report programs at the end of each month, you could define a request type called "Month–End Reports" and assign it to your ten report programs.

Then you can use specialization rules to define a concurrent manager that only runs requests of type "Month–End Reports". This way, you do not have to specify your ten different report programs when

you define your concurrent manager. You can also easily assign the ten programs to more than one manager.

Controlling Concurrent Managers

This essay explains how to control your concurrent managers.

Manager States

Individual managers read requests to start concurrent programs and actually start programs running when certain conditions are satisfied, such as the manager's work shift definition, number of target processes, and specialization rules.

You can start, shut down, or reset the concurrent managers at any time. Oracle Applications provides an Internal Concurrent Manager that processes these commands. You can issue commands either to individual managers, or, by altering the state of the Internal Concurrent Manager, you can control every manager at once.

Starting Individual Managers

You can restart or activate managers on an individual basis. Restarting a concurrent manager forces the Internal Concurrent Manager to reread the definition for that concurrent manager. Activating a manager cancels a previous command to deactivate it, and allows the Internal Concurrent Manager to start that manager when its work shift starts.

You should restart an individual manager when you:

- modify its work shift assignments
- modify a work shift's target number of processes
- modify its specialization rules
- change a concurrent program's incompatibility rules

Deactivating Individual Managers

When you shut down an individual manager, you can choose whether to abort all requests and deactivate the manager immediately, or to allow it to finish processing its current requests before deactivating.

If you choose to Deactivate the manager, requests that are currently running are allowed to complete.

When you terminate requests and deactivate an individual manager, requests that are currently running are immediately stopped and marked for resubmission (when the manager is activated).

Oracle Applications concurrent programs are designed so that no data is lost or duplicated when a terminated request is resumed after a shut

down. This applies for shutdowns that are normal (e.g., using the "Deactivate concurrent manager" request) or abnormal (e.g., after a hardware failure).

Attention: When a manager is selected and explicitly deactivated, it remains that way until you select and explicitly activate that manager. As a prerequisite, the Internal manager must be activated beforehand.

Controlling the Internal Concurrent Manager

When you activate the Internal Concurrent Manager, you activate all other managers as well, except those managers that were deactivated on an individual basis.

When you deactivate the Internal Concurrent Manager, it issues commands to deactivate all active managers. Managers that were deactivated on an individual basis are not affected.

If you terminate requests and deactivate the Internal Concurrent Manager, it issues commands to all other managers to terminate their requests and deactivate. Requests that are currently running are immediately stopped and marked for resubmission when the managers are activated.

Verify Concurrent Manager Status

The Internal Concurrent Manager continuously monitors each concurrent manager's operating system process. This process monitoring is referred to as the Internal Concurrent Manager's PMON cycle. The length of the PMON cycle is one of the arguments passed by the STARTMGR command, which starts up the Internal Concurrent Manager.

You can instruct the Internal Concurrent Manager to immediately verify the operating status of your individual concurrent managers, or to perform a PMON check.

Controlling Managers from the Administer Managers form

Use the Administer Concurrent Managers form to issue commands to your concurrent managers.

You can also have the Internal Concurrent Manager "manually" verify the status of your individual managers, and restart individual managers. See: Administer Concurrent Managers: page 5– 83.

Control Function	Description
Activate concurrent manager	Activates the Internal manager and all other managers, except managers that were deactivated individually using ”Deactivate concurrent manager”.
Verify concurrent manager status	Manually executes the process monitoring (PMON) cycle.
Deactivate concurrent manager	Deactivates the Internal manager and all other managers.
Terminate requests and deactivate manager	All running requests (running concurrent programs) are terminated, and all managers are deactivated.

Table 5 – 10 (Page 1 of 1)

The following table describes control functions for any other manager.

Control Function	Description
Activate concurrent manager	If the manager is defined to work in the current work shift, it starts immediately. Cancels ”Deactivate concurrent manager” and ”Terminate requests and deactivate manager”.
Restart concurrent manager	Internal manager rereads the manager’s definition, and the rules for concurrent program incompatibilities. You should restart a manager when you: – Change work shift assignments – Modify the number of target processes – Modify specialization rules – Change concurrent program incompatibilities

Table 5 – 11 (Page 1 of 2)

Control Function	Description
Deactivate concurrent manager	Deactivates the manager. All requests (concurrent programs) currently running are allowed to complete before the manager shuts down. A manager will not restart until you select the manager and choose "Activate concurrent manager".
Terminate requests and deactivate manager	All running requests (running concurrent programs) handled by the manager are terminated. Once deactivated, a manager will not restart until you select the manager and choose "Activate concurrent manager".

Table 5 – 11 (Page 2 of 2)

Controlling the Internal Concurrent Manager from the Operating System

There are two commands you may use from the operating system to control the Internal Concurrent Manager: STARTMGR, which starts the Internal Concurrent Manager; and CONCSUB, which can be used to deactivate or abort the Internal Concurrent Manager, or to instruct the Internal Concurrent Manager to verify the operating system process for each individual manager.

The following table compares the Internal manager control states displayed by the Administer Concurrent Managers form with their corresponding operating system command. Not all arguments are shown.

From the Administer Concurrent Managers Form	From the Operating System (not all arguments shown)
Activate concurrent manager	STARTMGR (syntax may vary with platform)
Verify concurrent manager status	CONCSUB FND VERIFY
Deactivate concurrent manager	CONCSUB FND DEACTIVATE
Terminate requests and deactivate manager	CONCSUB FND ABORT

Table 5 – 12 (Page 1 of 1)

Starting the Internal Concurrent Manager from the Operating System

To start the concurrent managers, you can invoke the STARTMGR command from your operating system prompt. This command starts the Internal Concurrent Manager, which in turn starts any concurrent managers you have defined.

You must have write privileges to the ”out” and ”log” directories of every application so that the concurrent managers can write to these directories. You can start the concurrent managers with many different options. An option on some operating systems is to send an electronic mail note to a given user when the concurrent managers shut down. See your installation guide for a discussion of this command.

See: Setting Up Concurrent Managers: page G – 42.

Use the STARTMGR command:

- during installation of Oracle Applications
- after you shut down the concurrent managers
- after MIS restarts the operating system
- after the database administrator restarts the database

The STARTMGR command takes up to ten optional parameters.

- Each parameter except PRINTER has a default.
- You can modify the STARTMGR command and your environment to set your own defaults.

Enter the following command at your system prompt to start the Internal Concurrent Manager:

```
$ startmgr  <optional parameters>
```

You can pass the parameters in any order. For example:

```
$ startmgr sysmgr=”applsys/fnd”  mgrname=”std”
 printer=”hqseq1”  mailto=”jsmith”  restart=”N”
 logfile=”mgrlog”  sleep=”90”  pmon=”5”  quesiz=”10”
```

Viewing the Internal Concurrent Manager startup parameters

The Internal Concurrent Manager’s log file displays startup parameter values executed by the STARTMGR command. An example is shown below. You cannot change the parameter values.

```
   logfile=/fnddev/fnd/6.0/log/FND60.mgr  (path is
port-specific)
   PRINTER=hqunx138
   mailto=appldev
```

```
restart=N
diag=N
sleep=60 (default)
pmon=20 (default)
quesiz=1  (default)
```

Shutting down the Internal Concurrent Manager from the Operating System

From the operating system prompt, you can use the CONCSUB utility to submit a concurrent request, under the SYSADMIN username and the System Administrator responsibility.

The CONCSUB utility submits a concurrent request and returns you to the operating system prompt. You must wait until the concurrent request completes.

To check on the status of your concurrent request, use the Concurrent Requests form.

```
CONCSUB applsys/pwd 'Responsibility application shortname'
 'Responsibility name' 'Username' [WAIT={Y|N|n}] CONCURRENT
 'Program application shortname'  PROGRAM
```

Parameters

applsys/pwd	The ORACLE username and password that connects to Oracle Application Object Library data.
Responsibility application shortname	The application shortname of the responsibility. For the System Administrator responsibility, the application shortname is SYSADMIN.
Responsibility name	The name of the responsibility. For the System Administrator responsibility, the responsibility name is *System Administrator*.
Username	The application username of the person who submits the request. For example, SYSADMIN is the username of the System Administrator.
WAIT={Y | N | *n*}	Set WAIT to Y if you want CONCSUB to wait until the request you submitted completes before CONCSUB returns you to the operating system prompt. Set WAIT to N (the default value) if you do not want CONCSUB to wait. You can also enter an integer value of *n* seconds for CONCSUB to wait before it exits.

When used, WAIT must be entered before CONCURRENT.

Program application shortname

The application shortname of the program. For the DEACTIVATE, ABORT, and VERIFY programs, the application shortname is FND.

PROGRAM

To submit the Shutdown All Managers concurrent request, use the program DEACTIVATE.

To submit the Shutdown Abort Managers concurrent request, use the program ABORT.

To submit the Verify All Managers Status concurrent request, use the program VERIFY.

Example Syntax using CONCSUB

```
CONCSUB <Username/Password> SYSADMIN 'System Administrator'
 SYSADMIN  CONCURRENT FND DEACTIVATE

CONCSUB <Username/Password> SYSADMIN 'System Administrator'
 SYSADMIN  CONCURRENT FND ABORT

CONCSUB <Username/Password> SYSADMIN 'System Administrator'
 SYSADMIN  CONCURRENT FND VERIFY
```

Using CONCSUB to shut down your managers

Use CONCSUB to shut down the concurrent managers:

- before MIS shuts down the operating system
- before the database administrator shuts down the database
- when you want concurrent manager and concurrent program definitions to take effect

Then, use the STARTMGR command to restart the Internal Concurrent Manager, which starts the concurrent managers.

Example – nightly shutdown using CONCSUB

You can use the token WAIT with value Y (WAIT=Y) if you want to use CONCSUB to issue a concurrent request from within a shell script containing a sequence of steps. Using the token WAIT insures the managers deactivate, abort, or verify status before the shell script proceeds to the next step.

Example Sequence

For example, you can write a shell script for your particular operating system that deactivates the Internal manager (and all the other managers) before shutting down, backing up, and restarting the database. You can also incorporate the STARTMGR command into the shell script to start up the Internal manager.

See: Controlling the Internal Concurrent Manager from the Operating System: page 5– 60

1. Shell script customized for specific operating system starts.
2. `CONCSUB` *`applsys/pwd`* `SYSADMIN 'System Administrator' SYSADMIN WAIT=Y CONCURRENT FND DEACTIVATE`

   When the shell script passes control to CONCSUB, CONCSUB waits until the program DEACTIVATE is complete before it returns control to the shell script.
3. Script issues the command to shut down the database.
4. Script issues the command to backup the database.
5. Script issues the command to startup the database.
6. `$ startmgr sysmgr="applsys/fnd" mgrname="std" printer="hqseq1" mailto="jsmith" restart="N" logfile="mgrlog" sleep="90" pmon="5" quesiz="10"`

   The shell script passes control to STARTMGR, which starts up the Internal manager (and all the other managers).
7. Shell script completes.

Hiding the password using CONCSUB

If username/password are still supplied, the CONCSUB utility will work as usual.

If username only is supplied (no '/pwd' in the first argument), it will prompt you for the password:

```
ORACLE Password:
```

The echo is turned off. For example, the command below does not include the ORACLE Password.

```
CONCSUB applsys SYSADMIN 'System Administrator' SYSADMIN
 CONCURRENT FND
FNDMNRMT Y 0 20221
ORACLE Password:
Submitted request 32157 for CONCURRENT FND FNDMNRMT Y 0
20221
```

Now, the first argument has to be the application username as usual (for example, SYSADMIN).

The user can put the password in a file, and then redirect it to standard input (stdin). In UNIX the command would be executed as follows:

```
CONCSUB applsys SYSADMIN 'System Administrator' SYSADMIN
 CONCURRENT FND
FNDMNRMT Y 0 20221 < password.file
```

where password.file is an ASCII file that contains the password. This method is recommended for use in shell scripts or batch processes.

Overview of Parallel Concurrent Processing

This essay explains what parallel concurrent processing is, describes the environments it runs in, and explains how it works.

What is Parallel Concurrent Processing?

Parallel concurrent processing allows you to distribute concurrent managers across multiple nodes in a cluster, massively parallel, or homogeneous networked environment. Instead of operating concurrent processing on a single node while other nodes are idle, you can spread concurrent processing across all available nodes, fully utilizing hardware resources.

Benefits of Parallel Concurrent Processing

Parallel concurrent processing provides Oracle Applications users with the following benefits:

- High performance—the ability to run concurrent processes on multiple nodes to improve concurrent processing throughput.
- Fault Tolerance—the ability to continue running concurrent processes on available nodes even when one or more nodes fails.
- Adaptability—the ability to integrate with platform–specific batch queue and load–balancing systems to maximize concurrent processing performance on a particular platform.
- Single Point of Control—the ability to administer concurrent managers running on multiple nodes from any node in a cluster, massively parallel, or homogeneous networked environment.

Parallel Concurrent Processing Environments

Parallel concurrent processing runs in multi–node environments, such as cluster, massively parallel, and homogeneous networked environments. In these environments, each node consists of one or more processors (CPUs) and their associated memory. Each node has its own memory that is not shared with other nodes And each node operates independently of other nodes, except when sharing a resource such as a disk.

With parallel concurrent processing, one or more concurrent managers run on one or more nodes in a multi–node environment. You decide where concurrent managers run when configuring your system.

You can define any set of concurrent manager specialization rules, and apply them across nodes in any way desired. For example, three "Oracle General Ledger" concurrent managers could be spread across three nodes. Or an "Oracle Payables" concurrent manager and an "Oracle General Ledger" concurrent manager could run simultaneously on the same node.

The following are examples of environments in which parallel concurrent processing can run:

Cluster Environments

In a cluster environment, multiple computers, each representing a single node, share a common pool of disks.

With parallel concurrent processing in a cluster environment, a single ORACLE database resides in the common disk pool, while multiple instances of Oracle Parallel Server run simultaneously on multiple nodes in the cluster. Multiple concurrent managers are also distributed across the nodes in the cluster.

Massively Parallel Environments

In a massively parallel environment, multiple nodes are housed in a single computer. All nodes share access to a common pool of disks. The IBM SP/2, for example, is a massively parallel computer.

With parallel concurrent processing in a massively parallel environment, separate Oracle Parallel Server instances run simultaneously on multiple nodes, with multiple concurrent managers also distributed across nodes.

Homogeneous Networked Environments

In homogeneous networked environments, multiple computers of the same type are connected via a local area network (LAN) to a single database server, or alternatively, to a cluster of database servers.

For example, a simple networked environment could consist of multiple Sun SPARCstations connected via a LAN to a single Sequent server. In a more complex networked environment, multiple Sun SPARCstations could connect to a cluster of Sequent servers.

With parallel concurrent processing in a homogeneous networked environment, concurrent managers run on multiple workstations. A single database server runs a single instance of ORACLE; or, a cluster of database servers runs multiple ORACLE instances using Oracle Parallel Server.

Concurrent Managers

With parallel concurrent processing, each node with concurrent managers may or may not be running an ORACLE instance. On a node that is not running ORACLE, the concurrent manager(s) connect via Net8 to a node that is running ORACLE.

To each concurrent manager, you assign a primary and a secondary node. Initially, a concurrent manager is started on its primary node. In case of node or ORACLE instance failure, all concurrent managers on that node migrate to their respective secondary nodes.

A concurrent manager on its secondary node migrates back to its primary node once that node becomes available. During migration, the processes of a single concurrent manager may be spread across its primary and secondary nodes.

Internal Concurrent Manager

The Internal Concurrent Manager can run on any node, and can activate and deactivate concurrent managers on all nodes. Since the Internal Concurrent Manager must be active at all times, it needs high fault tolerance. To provide this fault tolerance, parallel concurrent processing uses Internal Monitor Processes.

Internal Monitor Processes

The sole job of an Internal Monitor Process is to monitor the Internal Concurrent Manager and to restart that manager should it fail. The first Internal Monitor Process to detect that the Internal Concurrent Manager has failed restarts that manager on its own node.

Only one Internal Monitor Process can be active on a single node. You decide which nodes have an Internal Monitor Process when you configure your system. You can also assign each Internal Monitor Process a primary and a secondary node to ensure fail over protection.

Internal Monitor Processes, like concurrent managers, can have assigned work shifts, and are activated and deactivated by the Internal Concurrent Manager.

Log and Output File Access

The concurrent log and output files from requests that run on any node are accessible on–line from any other node. Users need not log onto a

node to view the log and output files from requests run on that node. See: Database Instances, Manager Location, and File Distribution: page 5– 72.

This capability relies on setup steps taken at install time. For more information, refer to the installation documentation for your platform.

Integration with Platform–Specific Queuing and Load–Balancing Systems

Some cluster or massively parallel systems have their own mechanisms for queuing batch processes or distributing process loads—for example, IBM LoadLeveler. Because users may wish to manage all processing, not just Oracle Applications processing, using these mechanisms, parallel concurrent processing is designed to integrate with them. Thus, you can match your concurrent process management to the specific capabilities of your operating platform.

For more information on integrating with platform–specific queuing and load–balancing systems, refer to the installation documentation for your platform.

Managing Parallel Concurrent Processing

This essay describes how to manage parallel concurrent processing from System Administration forms. It presents the following topics, each in the context of parallel concurrent processing:

Defining Concurrent Managers

You define concurrent managers using the Concurrent Managers window. When you define a manager, you specify the manager type, which may be either Concurrent Manager, Internal Monitor, or Transaction Manager.

There are three other types of managers that Oracle Applications predefines for you: the Internal Concurrent Manager, which describes the Internal Concurrent Manager process, the Conflict Resolution Manager, and the Scheduler. For the CRM and Scheduler you can assign the primary and secondary nodes. For the Internal Concurrent Manager you assign the primary node only.

Attention: When using parallel concurrent processing, manager names cannot have embedded spaces in them. Name your managers using one word, or connect two words using a hyphen (manager–name) or underline (manager_name).

To each concurrent manager and each Internal Monitor Process, you may assign a primary and a secondary node. You may also assign primary and secondary system queue names, if a platform–specific queue management system is available on your platform. See: Concurrent Managers: page 5–92.

Administering Concurrent Managers

Target Nodes

Using the Administer Concurrent Managers form, you can view the target node for each concurrent manager in a parallel concurrent processing environment. The target node is the node on which the processes associated with a concurrent manager should run.

When a manager's primary node and ORACLE instance are available, the target node is set to the primary node. Otherwise, the target node is set to the manager's secondary node (if that node and its ORACLE instance are available.) During process migration, processes migrate from their current node to the target node.

Control Across Nodes

Using the Administer Concurrent Managers form, you can start up, shut down, restart, and monitor concurrent managers and Internal Monitor Processes running on multiple nodes from any node in your parallel concurrent processing environment. You do not need to log onto a node to control concurrent processing on it. You can also terminate the Internal Concurrent Manger or any other concurrent manager from any node in your parallel concurrent processing environment.

Starting Up Managers

You start up parallel concurrent processing by invoking the STARTMGR command from the operating system prompt. Regardless of the node from which you activate the Internal Concurrent Manager, it starts up on its assigned node (assuming that you operate from a node whose platform supports remote process startup.)

After the Internal Concurrent Manager starts up, it starts all the Internal Monitor Processes and all the concurrent managers. It attempts to start Internal Monitor Processes and concurrent managers on their primary nodes, and resorts to a secondary node only if a primary node is unavailable.

Shutting Down Managers

You shut down parallel concurrent processing by issuing a ”Deactivate” command against the Internal Concurrent Manager from the Administer Concurrent Managers form. All concurrent managers and Internal Monitor processes are shut down before the Internal Concurrent Manager shuts down.

Terminating a Concurrent Process

You can terminate a running concurrent process on the local node or on remote nodes by issuing a ”Terminate” command from the Administer Concurrent Managers form.

Administer Concurrent Managers: page 5– 83

Controlling the Internal Manager from the Operating System: page 5– 60

Concurrent Managers: page 5– 92

Migrating Managers

Most process migration occurs automatically in response to the failure or subsequent availability of a primary node. However, you may

migrate processes manually by changing the node assignments for a concurrent manager or Internal Monitor Process using the Concurrent Managers form. To effect your changes, you issue a "Verify" command against the Internal Concurrent Manager from the Administer Concurrent Managers form.

Database Instances, Manager Location, and File Distribution

The following pages illustrate some example configurations for parallel concurrent processing.

With parallel concurrent processing, each node with concurrent managers may or may not be running an ORACLE instance. On a node that is not running ORACLE, the concurrent manager(s) connect via Net8 to a node that is running ORACLE.

The APPLTOP can be stored on a node's local disk. Alternatively, these files can be stored in one central location, and read remotely from other nodes.

Examples of Parallel Concurrent Processing

Parallel Concurrent Processing – Single Database Instance with Centralized and Shared Log / Output / Executable File System: page 5– 73

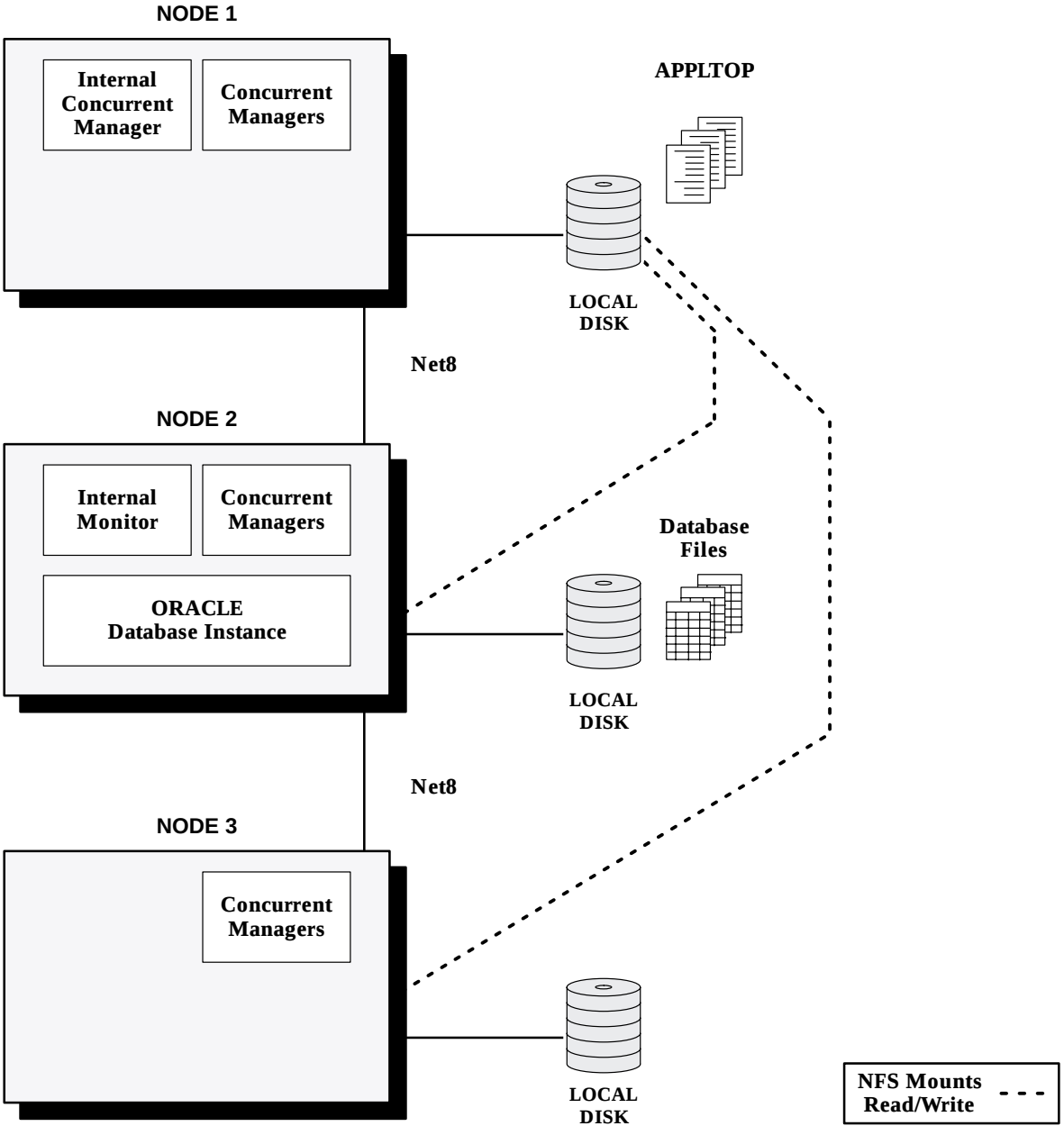
Parallel Concurrent Processing – Oracle Parallel Server with Centralized and Shared Log / Output / Executable File System: page 5– 74

Parallel Concurrent Processing – Single Database Instance with Distributed Log / Output / Executable Files: page 5– 75

Parallel Concurrent Processing – Node 1 acts as Database Server, Nodes 2–5 act as Concurrent Manager Servers: page 5– 76

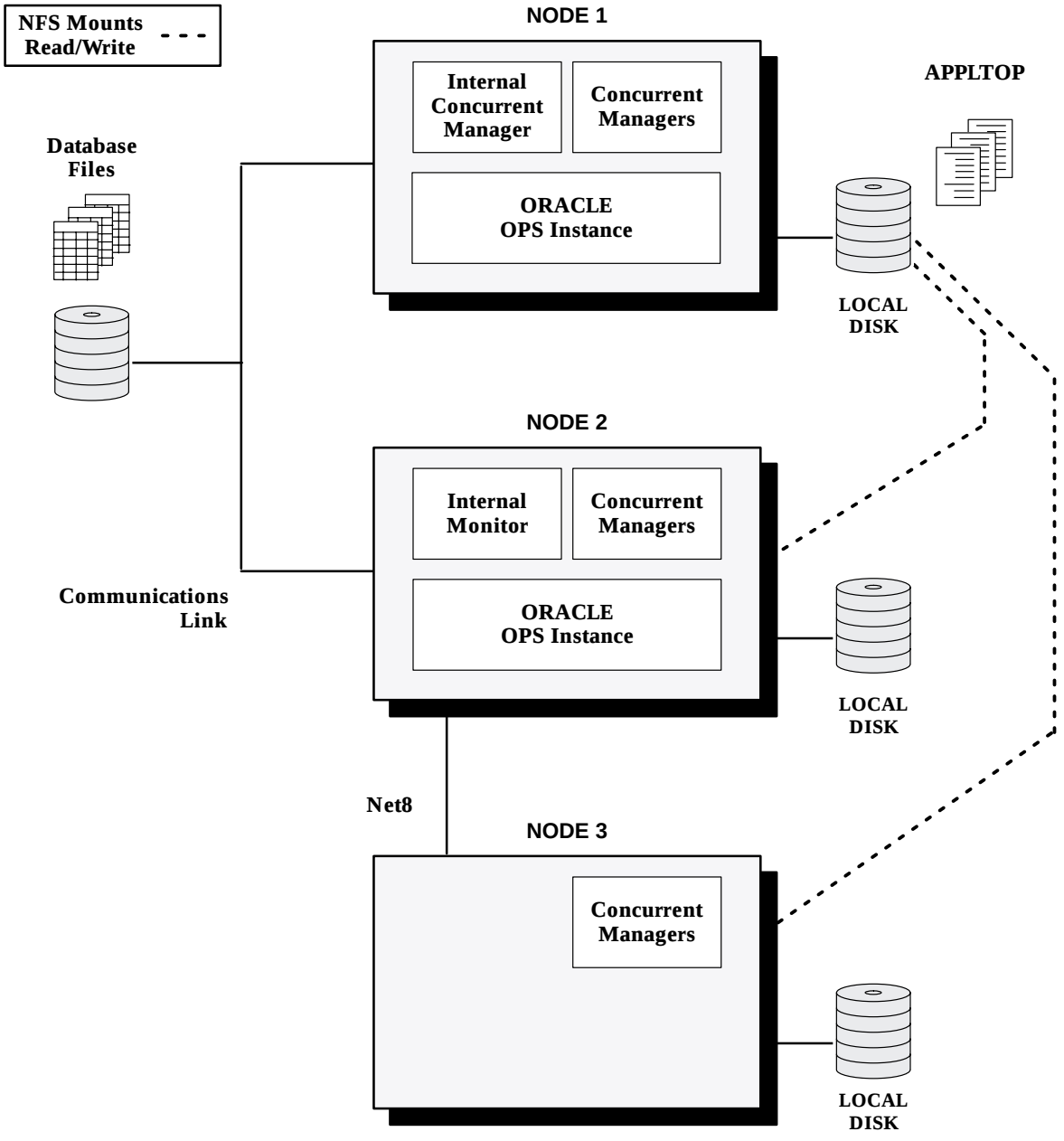
Parallel Concurrent Processing – Single Database Instance with Centralized and Shared Log/Output/Executable File System

Figure 5 – 4



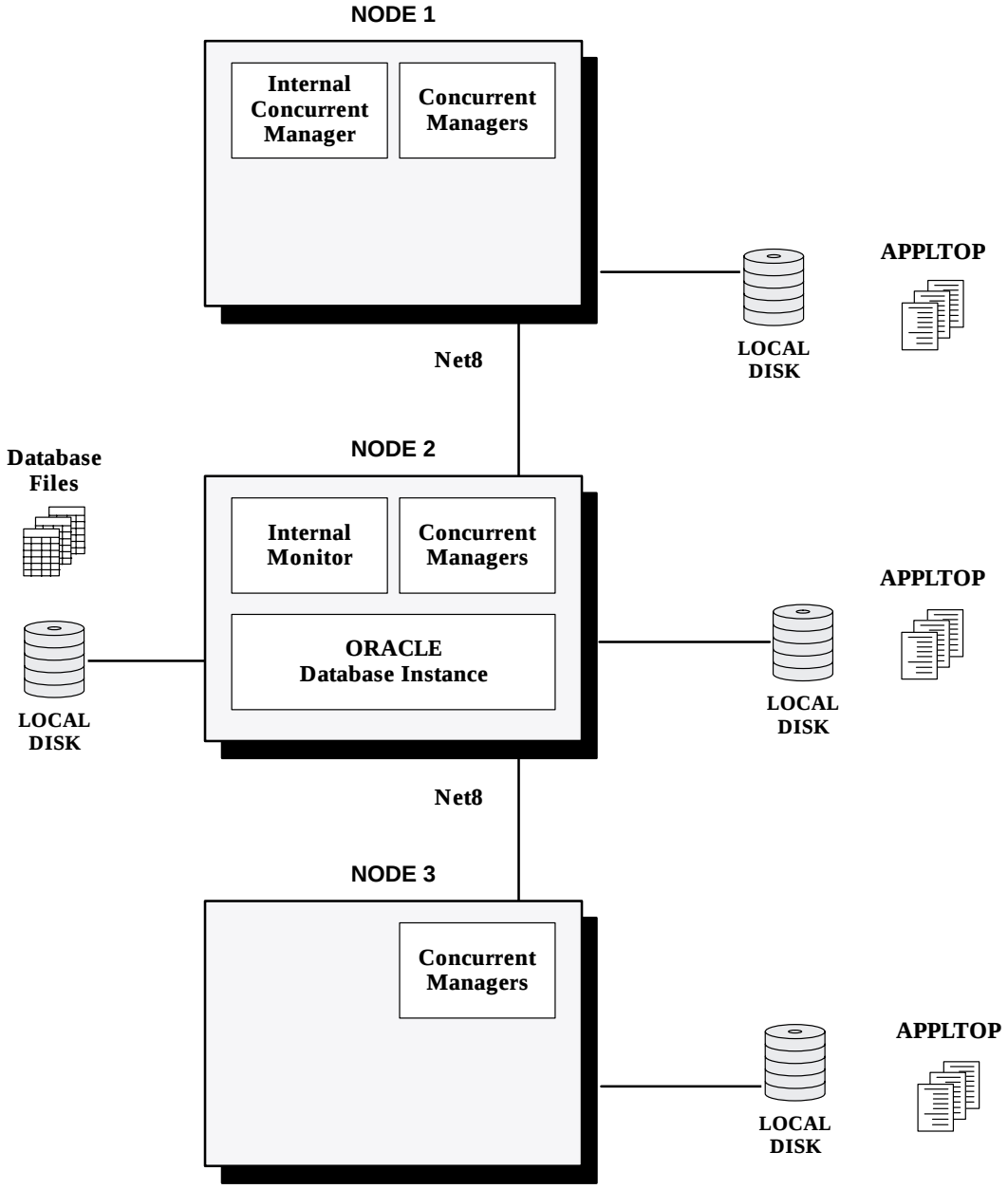
Parallel Concurrent Processing – Oracle Parallel Server with Centralized and Shared Log/Output/Executable File System

Figure 5 – 5



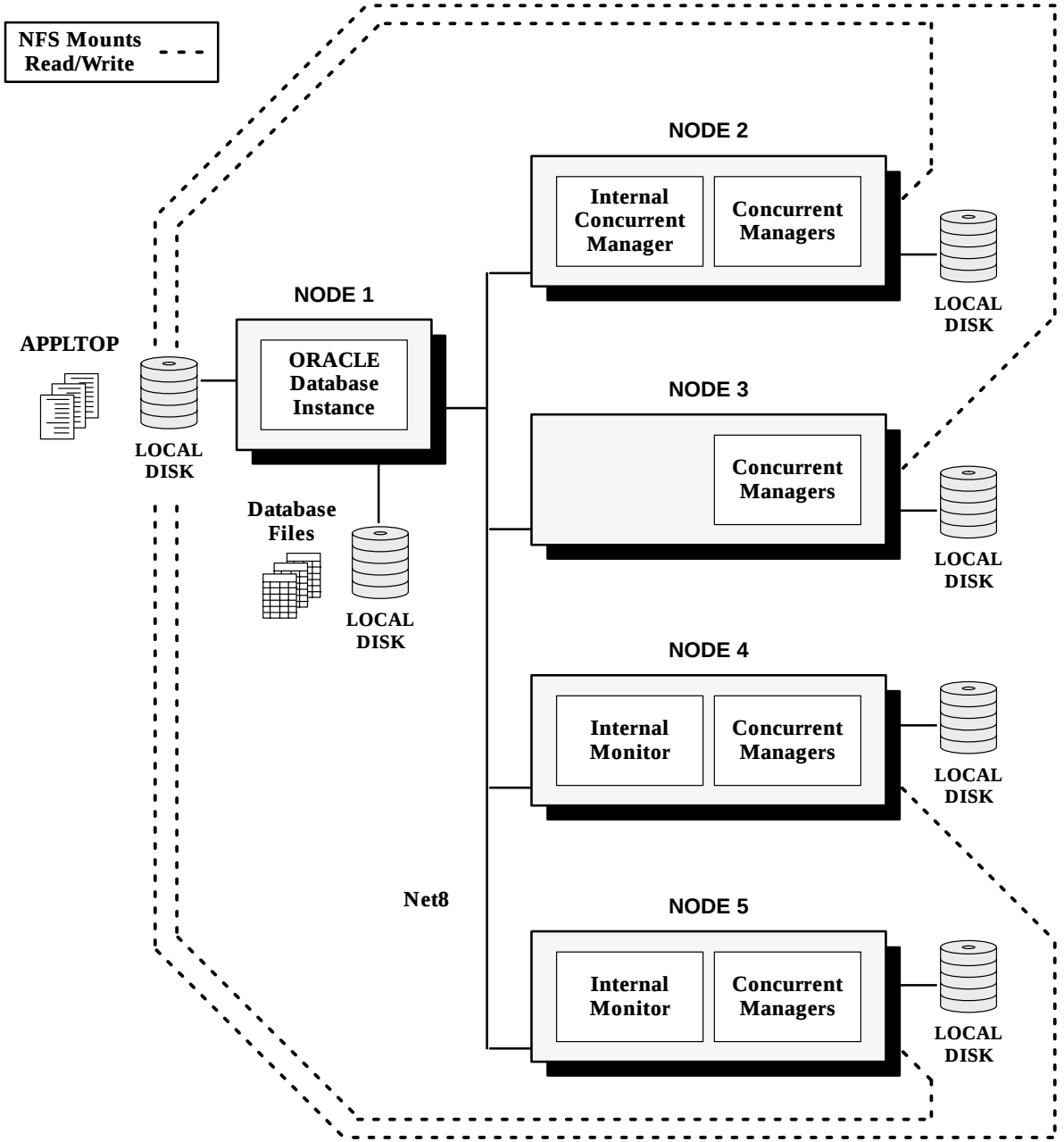
Parallel Concurrent Processing – Single Database Instance with Distributed Log/Output/Executable Files

Figure 5 – 6



Parallel Concurrent Processing – Node 1 acts as Database Server, Nodes 2–5 act as Concurrent Manager Servers

Figure 5 – 7



Implementing Parallel Concurrent Processing

The following checklist summarizes the steps for implementing parallel concurrent processing.

- ❑ Set up **applmgr** logins on each node.
- ❑ Run Rapid Install to create additional concurrent processing servers as necessary.
- ❑ Create a new Oracle Applications environment file on each concurrent processing server.

See: Creating an Environment File
(Maintaining Oracle Applications)

- ❑ Edit **dcpstart** on each node.

  If you are setting up parallel concurrent processing, you need to edit the file dcpstart in the $FND_TOP/bin directory of each concurrent processing server to set environment variable values for the servers. Copy dcpstart to each server's applmgr home directory.

  To edit a dcpstart file, open the file with an editor and find the following lines:

  ```
  ORACLE_HOME="<pathname>"; export ORACLE_HOME
  ORACLE_SID="<database>"; export ORACLE_SID
  #TWO_TASK="<database connect string>"; export TWO_TASK
  ```

  Comment out the ORACLE_SID line by placing a number or pound sign (#) at the beginning of the line.

  Uncomment the TWO_TASK line by removing the number or pound sign (#).

  Change the variable values to the correct values on the server. TWO_TASK should be set. Following is an example of how TWO_TASK should be set:

  ```
  ORACLE_HOME=/d01/oracle/8.0.6; export ORACLE_HOME
  ORACLE_SID="<database>"; export ORACLE_SID
  TWO_TASK=aprod1; export TWO_TASK
  ```

  Below these lines, find the line that runs the environment file. The environment filename is typically <dbname>.env, where <dbname> is the name of the database in which the current product group is installed.

  Specify here the full path and filename of the concurrent processing server's environment file. If you installed product files on a local

disk, the environment file is in the server's top applications directory. Otherwise it is in the applmgr home directory. Here is an example:

```
. /d01/appl/115/apptest.env
```

If you edited dcpstart in the server's local $FND_TOP/bin directory, copy the file to the server's applmgr home directory. Each server needs a copy of the edited dcpstart file in its applmgr home directory and, if the server has the Oracle Applications product files on a local disk, in the disk's $FND_TOP/bin directory.

> **Note:** The dcpstart file sets the server variables when the applmgr login is accessed remotely from another server. The applmgr .profile file is not run in this case. You also need to set each applmgr .profile file to run its server's environment file. This sets the correct variables when a user logs in as applmgr.

- ❑ Define the concurrent managers.

Attention: When using parallel concurrent processing, manager names cannot have embedded spaces in them. Name your managers using one word, or connect two words using a hyphen (manager–name) or underline (manager_name).

See: Managing Parallel Concurrent Processing: page 5– 70

Concurrent Managers and Oracle Parallel Server (OPS)

This section describes the implementation of concurrent managers with Oracle Parallel Server (OPS). Refer to MetaLink for information on implementing Oracle Parallel Server with Oracle Applications Release 11*i*.

The implementation of concurrent managers in Release 11*i* changed to utilize Oracle8*i* Parallel Server. These changes include:

- Data model changes that partition several of the more heavily used concurrent manager tables:
  - FND_CONCURRENT_REQUESTS
  - FND_RUN_REQUESTS
  - FND_CONC_PP_ACTIONS
  - FND_RUN_REQ_PP_ACTIONS

  Additionally, several indexes were changed to be local prefixed indexes. This partitioning (with one partition per OPS instance) allows requests to be segregated according to which OPS instance on which they are to run. The new non–nullible column OPS_INSTANCE determines on which instance the request should run.
- Changes in the code to make managers selective as to which requests they will run. For example, a manager whose primary instance is number 1 will not pick up a request assigned to instance 2., even if the manager has migrated to instance 2 because the primary instance is down.
- Code changes to populate the OPS_INSTANCE column.
- The FND_CP_OPS_MAINT package provides maintenance.
  - FND_CP_OPS_MAINT.Expand provides the ability to add partitions as new instances are installed.
  - FND_CP_OPS_MAINT.Migrate is used to move a request from one OPS instance / partition to another. This move should only be done with pending requests. While the API does allow the migration of completed requests, there is no performance related reason to do so. Oracle discourages performing this operation while requests are running, especially when trying to move request sets.
  - FND_CP_OPS_MAINT.Validate should only be used when prescribed by Oracle Support or development.
  - FND_CP_OPS_MAINT.Register_Instance is used to register an instance with the concurrent manager.

– FND_CP_OPS_MAINT.Expand should normally be called after adding an instance, so that various partitioning can be performed. If several instances are being registered at one time, you may register all of them and then run FND_CP_OPS_MAINT.Expand once.

How to Install Concurrent Manager OPS Support

The following steps are involved in preparing your installation for the concurrent manager OPS support.

1. First, specify the instance number for each of your instances in their respective configuration files (init.ora). If you fail to do this Oracle will dynamically assign instance numbers as the various instances are started up, which will lead to unpredictable results. It is also important that you begin the numbering at 1 and do not leave gaps as this would result in extra partition creation that will degrade performance.

   Here is an example from an init.ora file:

   ```
   INSTANCE_NUMBER=1
   ```

2. Next, populate the table FND_OPS_INSTANCES using FND_CP_OPS_MAINT.Register_Instance:

   ```
   PROCEDURE Register_Instance (INSTANCE_NUMBER IN NUMBER,
                                SERVICE_NAME IN VARCHAR2,
                                DESCRIPTION in VARCHAR2)
   ```

   where:

   – INSTANCE_NUMBER is the OPS instance ID hardcoded in that instance's configuration file.

   – SERVICE_NAME is the SQL*Net service name.

   – DESCRIPTION is a description of the instance for your reference.

3. If the patch containing the OPS infrastructure has not been applied, apply it now.

   Warning: It is extremely important that the concurrent managers be shutdown during this process.

   The operations performed in this patch are the renaming of the tables to be partitioned, the recreation of the tables as partitioned, the copying of the data from the original tables to the rebuilt tables, and finally the dropping of the indexes from the old tables and

their recreation on the new tables. In the unlikely event of a problem occurring during this process the original tables can be found under the following new names:

- FND_CONCURRENT_REQUESTS is renamed as FND_CP_OPSTMP_FCR
- FND_CONC_PP_ACTIONS is renamed as FND_CP_OPSTMP_FCPA
- FND_RUN_REQUESTS is renamed as FND_CP_OPSTMP_FRR
- FND_RUN_REQ_PP_ACTIONS is renamed as FND_CP_OPSTMP_FRRPA

The patching process leaves these renamed tables in the database. Oracle recommends that a sufficient amount of time elapse before dropping these tables in order to ensure that no data loss has occurred. It would not be unreasonable to wait months before dropping these tables.

4. Recompile invalid objects using ”Compile APPS Schema(s)” from the ”Maintain Applications Database Objects” menu in AD Administration.
5. The patching scripts will assign all requests in the database to the OPS instance that the patch is being run on. Individual requests may then be migrated using FND_CP_OPS_MAINT.Migrate(Req_ID, OPS_ID) where
   - Req_ID is the Request to be moved
   - OPS_ID is the Destination OPS Instance ID

   Alternatively, you may cancel the pending requests and resubmit them from the desired instance (which is the preferred method).

   At this point the OPS support should be fully functional.

Adding OPS Instances

This section describes adding OPS instances at a later time.

Assuming the concurrent manager OPS support has already been installed, you will need to do the following:

1. Set the INSTANCE_NUMBER initialization parameter in the new instance’s configuration file (init.ora).
2. Populate the TABLE FND_OPS_INSTANCES using FND_CP_OPS_MAINT.Register_Instance:

```
PROCEDURE Register_Instance (INSTANCE_NUMBER IN NUMBER,
                             SERVICE_NAME IN VARCHAR2,
                             DESCRIPTION in VARCHAR2)
```

where:

- INSTANCE_NUMBER is the OPS instance ID specified in that instance's configuration file.
- SERVICE_NAME is the SQL*Net service name.
- DESCRIPTION is a description of the instance for your reference.

3. Execute the PLSQL function FND_CP_OPS_MAINT.EXPAND. It should return TRUE.
4. Use FND_CP_OPS_MAINT.Migrate(Req_ID, OPS_ID) to migrate pending requests to the new instance as desired. **Note**: Running requests will not be moved, so you may wish to shut down the managers for this operation, or alternatively cancel the pending requests and resubmit them from the desired instance.

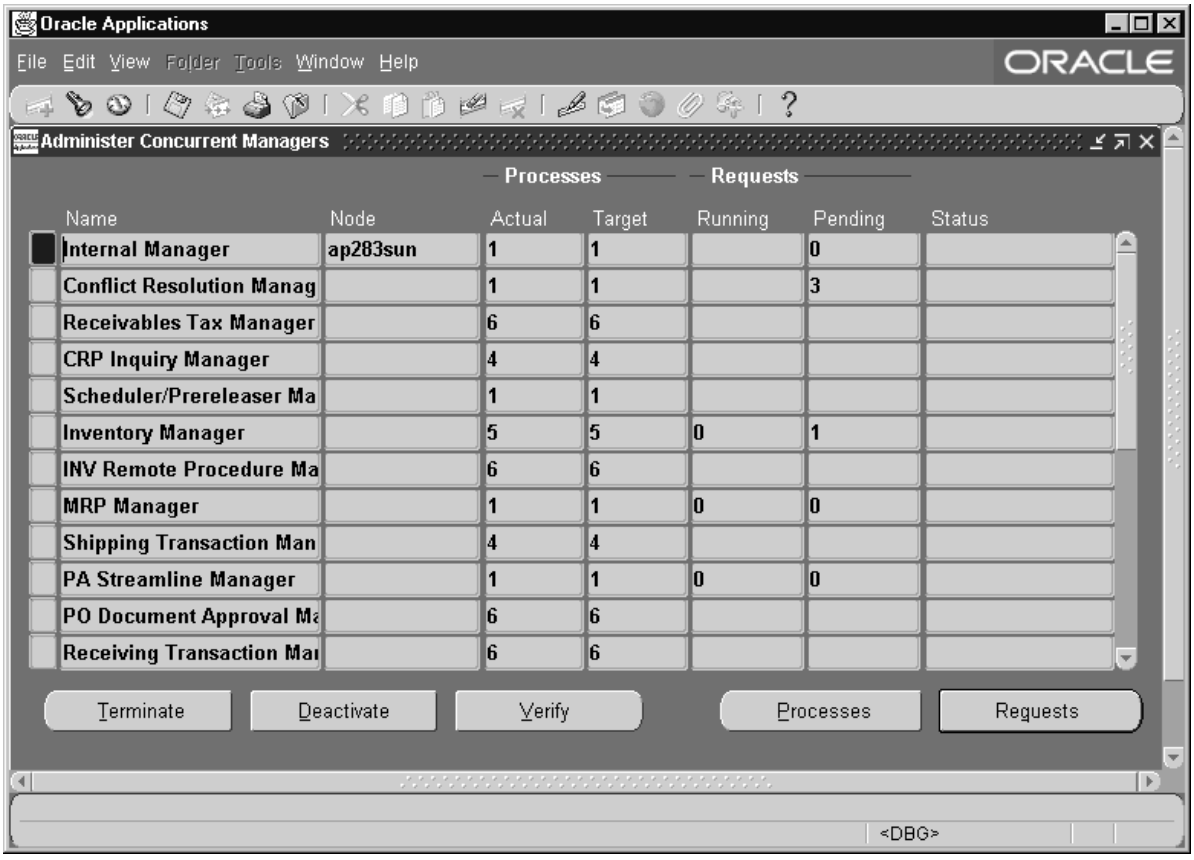
Maintenance of Managers

Because managers only pick up requests for their own instance, you should create new managers to support requests on additional instances. For example, if you have the standard manager running on Instance 1, but there will be requests submitted from Instance 2 that would normally run under the standard manager, you should create another manager similar to the standard manager, but with a primary node of Instance 2.

This requirement can be managed to a certain extent via the profile option "Database Instance". This profile specifies which instance is used to log into the database at the time a user selects a responsibility. Since requests are assigned to the instance from which they are submitted, this can limit which instances will have certain programs running.

For example, suppose you have a manager to run requests for application XYZ and these requests are only submitted from responsibilities XYZ and XYZ–Super–User. If the profile Database Instance is set to 1, the requests will only be submitted against instance 1, and there will be no need to duplicate this manager on the other instances. Obviously, there are other performance implications involved in using this profile.

Administer Concurrent Managers Window



View the status of your concurrent managers (including any transaction managers) and, if you wish, change the status of any manager by issuing a control command. For example, you can deactivate a manager that is currently active, then view its new status after the change takes effect.

Administer Concurrent Managers Block

Node

In a parallel concurrent processing environment, a manager's processes are targeted to run on this node.

If a concurrent manager is defined to use a platform–specific system queue, this field displays the name of the queue which the manager submits its processes to.

Processes
Actual

Each manager process can run one concurrent request (start one concurrent program). Typically, the number of actual processes equals the number of target processes (the maximum number of requests a manager can run).

However, the number of actual processes may be less than the number of target processes due to lack of requests, manager deactivation, or manager migration.

Processes
Target

This field displays the maximum number of manager processes that can be active for this manager.

Requests Running/Requests Pending

Typically, when there are requests pending, this number should be the same as the number of actual processes. However, if there are no pending requests, or requests were just submitted, the number of requests running may be less than the number of actual processes.

Moreover, if a concurrent program is incompatible with another program currently running, it does not start until the incompatible program has completed. In this case, the number of requests running may be less than number of actual processes even when there are requests pending.

Status

This field displays the status of a manager after you have chosen a specific action for it using the top row of buttons near the bottom of the window.

You can control concurrent managers individually or collectively by controlling the Internal Concurrent Manager. This field is blank when managers have been activated by the Internal Concurrent Manager.

In a parallel processing environment, this field displays *Target node/queue unavailable* when the primary and secondary nodes (or system queues) are not available.

Controlling a Specific Manager

The actions you can choose for controlling a manager are:

Terminate When you terminate requests and deactivate the Internal Concurrent Manager, all running requests

(running concurrent programs) are terminated, and all managers are deactivated.

Managers previously deactivated on an individual basis are not affected.

You can terminate requests and deactivate individual managers. All running requests (running concurrent programs) handled by the manager are terminated.

Once deactivated, a manager does not restart until you select the manager and choose the Activate button.

Deactivate

When you deactivate the Internal Concurrent Manager, all other managers are deactivated as well. Managers previously deactivated on an individual basis are not affected.

You can deactivate individual managers. Once deactivated, a manager does not restart until you select the manager and choose the Activate button.

When you deactivate a manager, including the Internal Concurrent Manager, all requests (concurrent programs) currently running are allowed to complete before the manager(s) shut down.

Verify

This choice appears only when you select the Internal Concurrent Manager.

The Internal Concurrent Manager periodically monitors the processes of each concurrent manager. You can force this process monitoring or PMON activity to occur by choosing the Verify button.

Another result of selecting this choice is that the Internal Concurrent Manager rereads concurrent program incompatibility rules.

Restart

This choice appears only when you select an individual manager.

When you restart a concurrent manager, the manager rereads its definition.

You should restart a manager when you have made the following changes using the Define Concurrent Manager form, and you wish those changes to take effect:

– Change work shift assignments

– Modify the number of Target Processes

– In a parallel concurrent processing environment, change node or system queue information

Activate

When you activate the Internal Concurrent Manager, you activate all other managers as well, except those managers that were deactivated on an individual basis.

You cannot activate the Internal Concurrent Manager from the PC client. The Internal Concurrent Manager is only activated from the server.

You can also activate an individual concurrent manager that is currently deactivated, so long as the Internal manager is active. If the manager is defined to work in the current work shift, then the Internal manager starts it immediately.

Reviewing a Specific Manager

View details of a concurrent manager's operation.

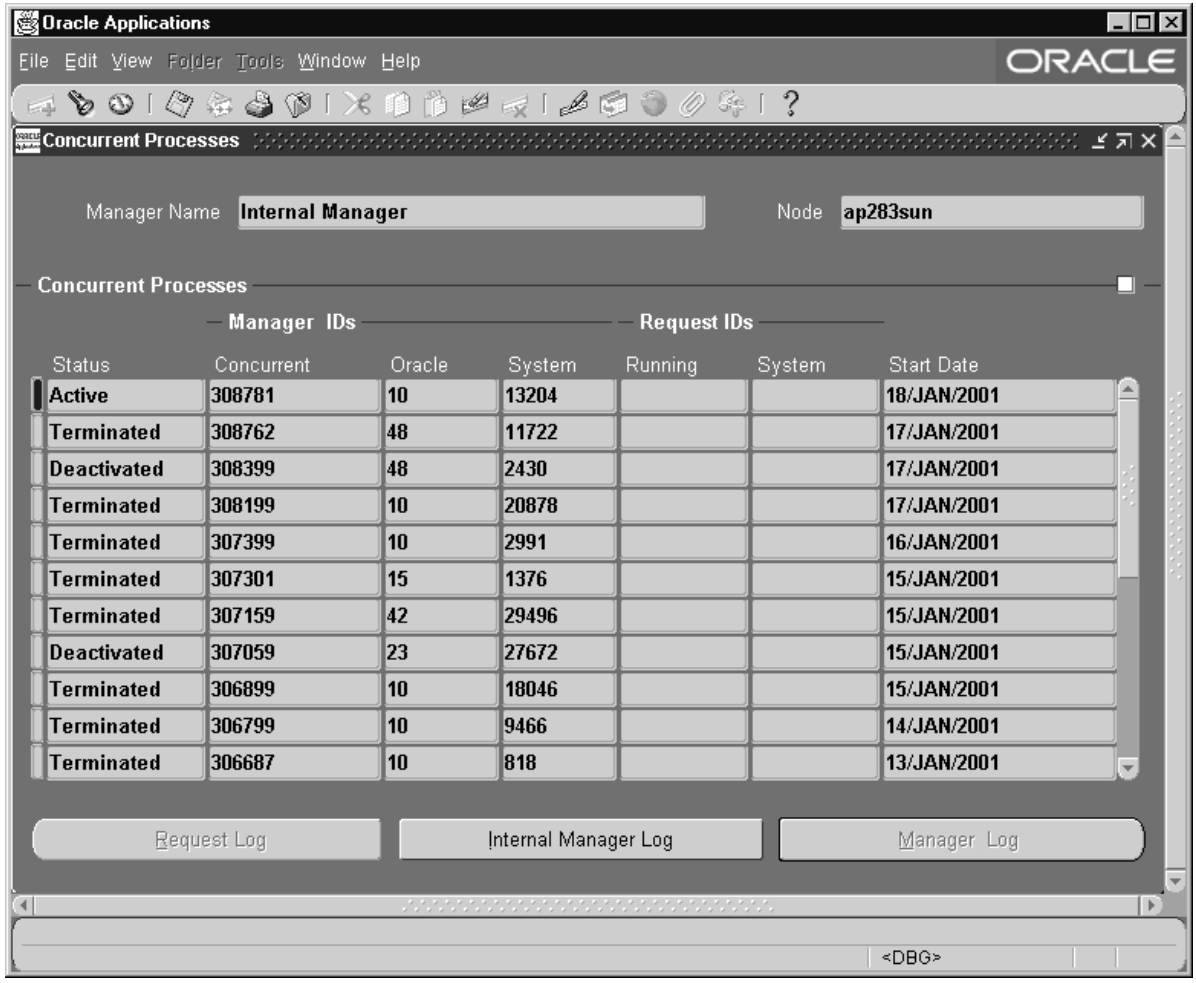
Processes

You can view the details of the processes of a given concurrent manager. Processes that are currently active, migrating, or terminating, as well as processes that have been terminated or deactivated, are displayed.

Requests

For a selected manager you can view all running and pending requests handled by the manager.

Concurrent Processes Window



View status information about the processes of a specific concurrent manager, whose name and node are identified near the top of the window.

Displaying this window automatically queries all processes that are currently active, migrating, or terminating, as well as processes that have been terminated or deactivated.

Display order is by status value (Active, Migrating, Terminating, Terminated, Deactivated) and within status, by the order in which processes were started.

If you wish to reduce the number of displayed processes, you can delete records by submitting the ”Purge Concurrent Request and Managers”

report from the Run Requests form. You can delete records according to the number of days since the processes were started. However, you cannot delete the records of currently active managers.

Status

This field cannot be updated. The following are valid status values:

Active Currently running manager processes display as "Active".

Deactivated Manager processes that are no longer running display as "Deactivated".

These processes were deactivated by you choosing the Deactivate button in the Administer Concurrent Managers block, or by the Internal Concurrent Manager deactivating a concurrent manager at the end of that manager's work shift.

Migrating Managers that are migrating between primary and secondary nodes display as "Migrating".

In a parallel concurrent processing environment, concurrent managers run on either the primary or secondary node assigned to them. Managers migrate to the secondary node if the primary node or the database instance on the primary node is unavailable. Managers migrate back to the primary node once it becomes available.

Terminating Manager processes that are being terminated display as "Terminating".

These processes were terminated by you choosing the Terminate button in the Administer Concurrent Managers block, or by a user selecting "Terminate" in the Concurrent Requests form.

Terminated Manager processes that have been terminated display as "Terminated".

These processes were terminated by you choosing the Terminate button in the Administer Concurrent Managers block, or by a user selecting "Terminate" in the Concurrent Requests form.

Manager Identifiers
Concurrent

This field displays a number generated by the individual concurrent manager that identifies the process. This field cannot be updated.

This number may be referenced if an operating system process ID is not available.

You can use this number to view the log file associated with the process. (This is the same log file you view when you select Manager Log from the View field of the Concurrent Requests form):

- At the operating system level, locate yourself in the log directory $FND_TOP / APPLLOG.
- For concurrent managers, use W<*number*>.mgr.
- For Internal Monitor processes, use I<*number*>.mgr.

Manager Identifiers
Oracle

This field displays the ORACLE process ID associated with the manager process. This field cannot be updated.

Manager Identifiers
System

This field displays the operating system process ID associated with the manager process. This field cannot be updated.

Request Identifiers
Running

Please note the following about this field:

- Normally this field is blank, as the run–time of a request is typically very short.
- For a terminated manager, the ID of the request being processed at the time of termination is displayed.

Request Identifiers
System

This field displays the operating system process ID for a spawned concurrent process.

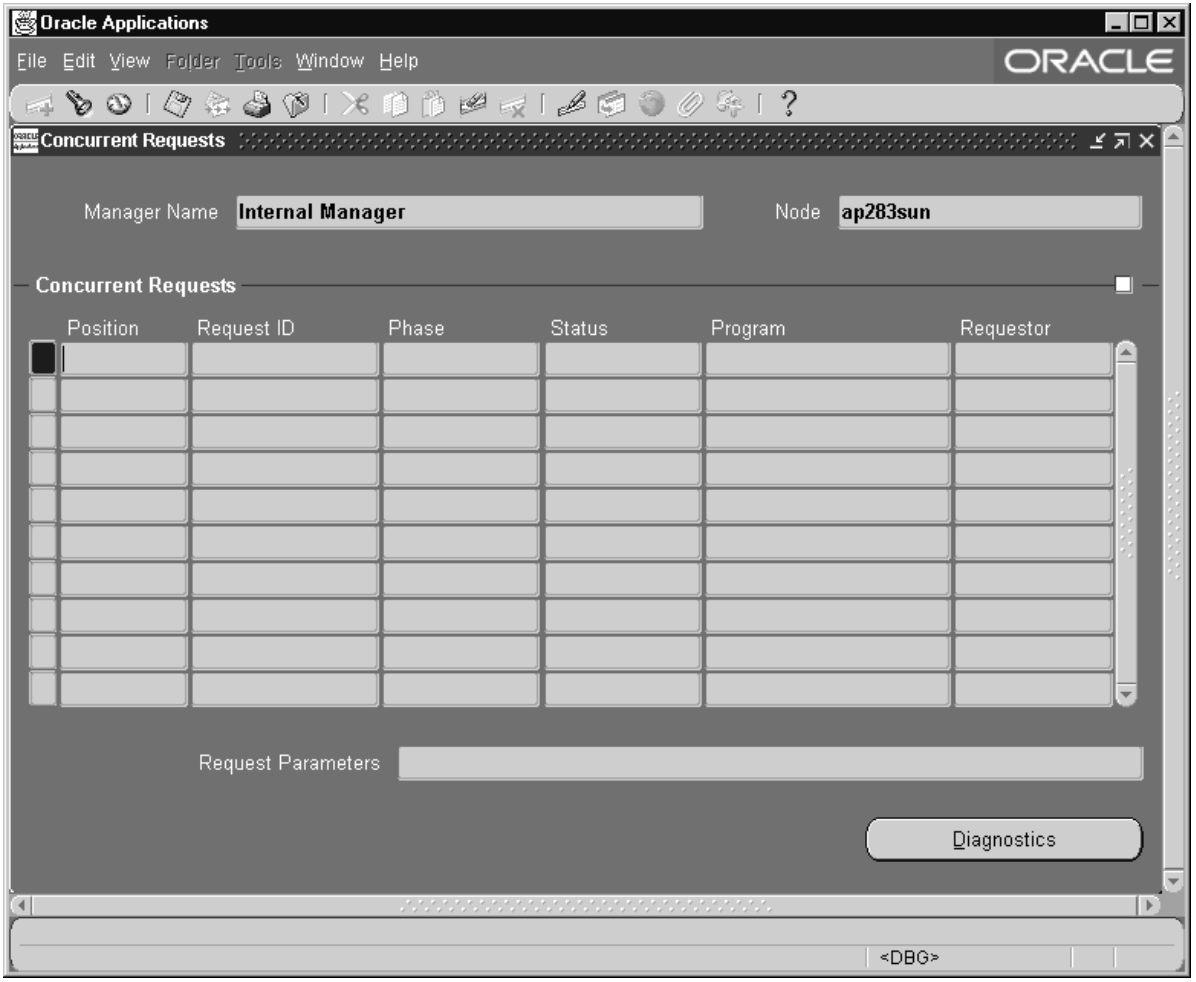
Viewing Log Files

Use the three buttons near the bottom of the window to view log files. Log files record information that may be helpful when diagnosing problems.

Request Log Choose this button to view the log file of the process associated with the running request.

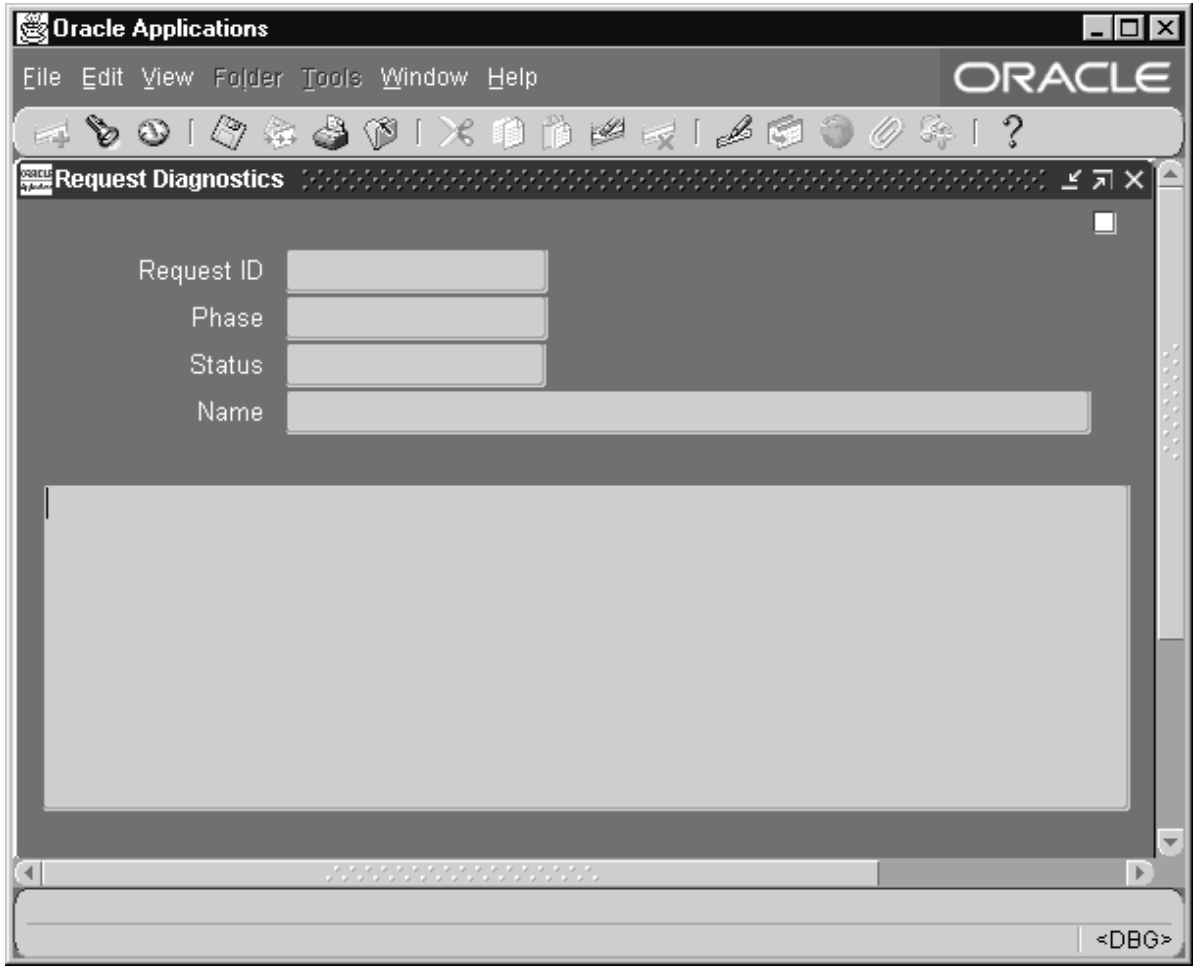
Internal Manager Log	Choose this button to view the Internal Concurrent Manager's log file.
Manager Log	Choose this button to view the log file of the concurrent manager who started running the request.

Concurrent Requests Window



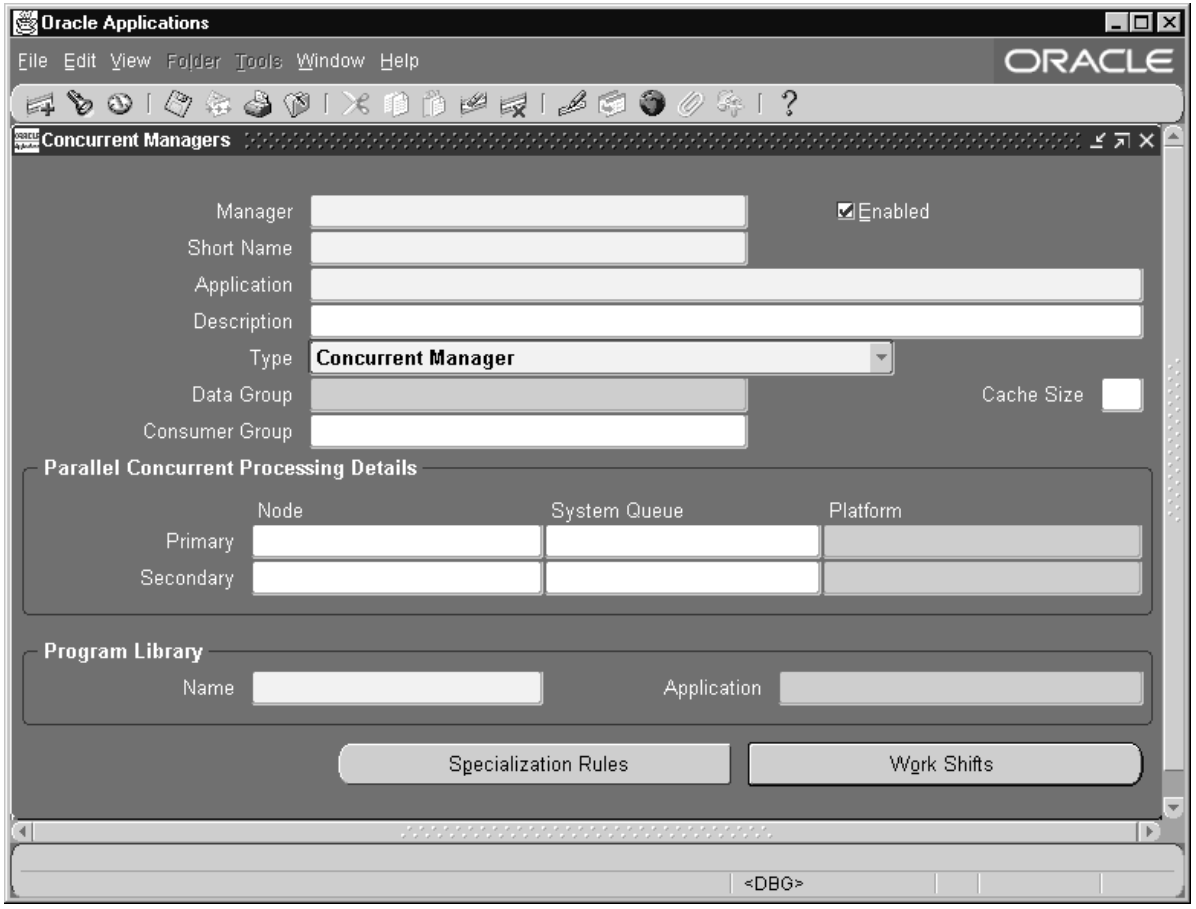
View all running and pending requests for a selected manager, whose name and node are identified near the top of the window.

Request Diagnostics Window



This window informs you when the request completed or if it did not complete, shows you a diagnostic message indicating why.

Concurrent Managers Window



Use this window to define your concurrent managers. You can determine when a manager runs and how many programs a manager can start simultaneously when you assign workshifts to the manager. Determine which programs a manager can start by defining specialization rules.

Concurrent Managers Block

The combination of an application and the name you define for your manager uniquely identifies the manager.

Application

The application name does not prevent a manager from starting programs associated with other applications. To restrict a manager to

only running programs associated with certain applications, go to the Specialization Rules window.

Type

Once you define a concurrent manager, you cannot update this field. There are several types of managers:

Concurrent Manager	Concurrent Managers start concurrent programs running.
Internal Monitor	Internal Monitors monitor the Internal concurrent manager in a parallel concurrent processing environment. If the Internal Concurrent Manager exits abnormally (for example, because its node or its database instance goes down), an Internal Monitor restarts it on another node.
Transaction Manager	Transaction managers handle synchronous requests from client machines.

Cache Size (Concurrent Manager only)

Enter the number of requests your manager remembers each time it reads which requests to run. For example, if a manager's workshift has 1 target process and a cache value of 3, it will read three requests,, and will wait until these three requests have been run before reading new requests.

In reading requests, the manager will only put requests it is allowed to run into its cache. For example, if you have defined your manager to run only Order Entry reports then the manager will put only Order Entry requests into its cache.

If you enter 1, the concurrent manager must look at its requests list each time it is ready to process another request.

By setting the cache size at a higher number, the concurrent manager does not have to read its requests list each time it runs a request. However, the manager does not recognizea nay priority changes you make for a particular request if it has already read that request into its cache. Further, even if you give a higher priority to a new request, that new request must wait until the buffer isempty and the manager returns to look at the requests list. That request may have to wait a long time if you set the buffer size to a high number.

You should use cache size to tune your concurrent managers to work most efficiently for you site's needs. If your organization tends to reprioritize jobs going to a certain manager, that manager should have its buffer size set fairly low.

Suggestion: Enter a value of 1 when defining a manager that runs long, time–consuming jobs, and a value of 3 or 4 for managers that run small, quick jobs.

Data Group (Transaction Manager only)

The data group the transaction manager uses to connect to the database. Transaction managers only run programs submitted from responsibilities that use the same data group as the transaction manager.

Resource Consumer Group

The resource consumer group for the manager. For more information on resource consumer groups, see: Resource Consumer Groups in Oracle Applications page: 8– 7.

Parallel Concurrent Processing Details

Node

If you are operating in a parallel concurrent processing environment and you want your manager to operate on a specific node, select the name of the node.

The primary node, if available, is the node your concurrent manager operates on. If the primary node or the database instance on it goes down, your concurrent manager migrates to its secondary node. Your concurrent manager migrates back to its primary node when that node becomes available.

Nodes must be previously registered with Oracle Applications, using the Nodes form. See: Nodes: page 5– 109.

System Queue

If you are operating in a parallel concurrent processing environment and you want your manager to use a platform–specific queue management system instead of generic concurrent processing queue management, specify the queue or class name of that system. For example, you may choose a system queue name from a platform–specific queue management system like NQS or IBM Load Leveler.

The primary system queue is the queue you associate with the primary node. The secondary system queue is the queue you associate with the secondary node.

Attention: To ensure that your manager uses your platform–specific queue management system, you should start

the concurrent managers in the proper mode (set APPLDCP = OSQ). Refer to platform–specific documentation to determine if your platform supports interfacing with system queues. For Unix platforms, refer to the appropriate Oracle Applications Installation Update. For all other platforms, refer to the appropriate Oracle Applications Installation Guide.

Program Library

Select a library of immediate concurrent programs to make available to your manager. Your manager can only run immediate concurrent programs that are registered in the selected program library.

Immediate concurrent programs must be registered in a program library by an applications developer using Oracle Application Object Library.

Program Library

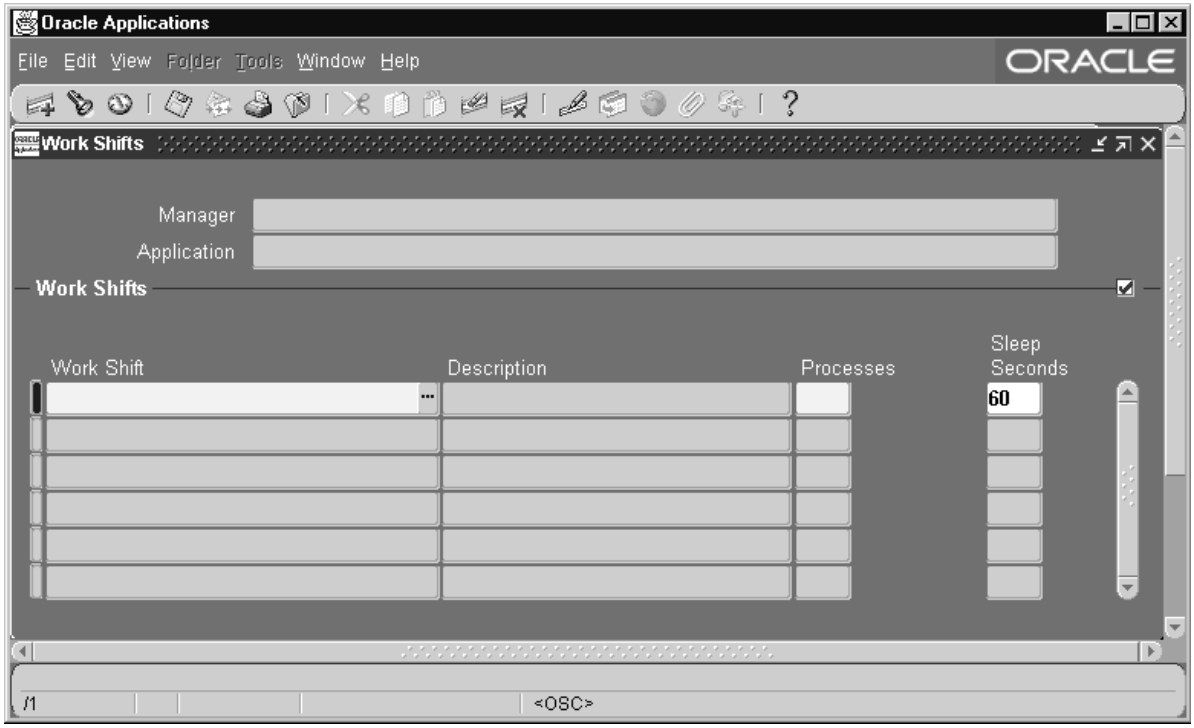
Concurrent managers can run only those immediate concurrent programs listed in their program library. They can also run concurrent programs that use any other type of concurrent program executable as long as the specialization rules include them.

Transaction Managers can only run programs listed in their program library.

Defining Manager Operations

The two buttons near the bottom of the window display additional windows for defining when your manager operates, and, if you wish, specializing your manager to run only certain kinds of programs.

Work Shifts Window



Assign work shifts to a concurrent manager. A work shift defines the dates and times the manager is enabled. For each work shift you define the number of processes the manager starts running.

Work shifts are defined using the Work Shifts form. See: Work Shifts: page 5– 100.

Work Shift

Select the work shift(s) you want to assign to your manager.

Processes

Enter the number of operating system processes you want your work shift to run simultaneously. Each process can run a concurrent request.

For example, if a work shift is defined with three (3) target processes, the manager can run up to three requests simultaneously.

Sleep Seconds

Enter the sleep time for your manager during this work shift. Sleep time is the number of seconds your manager waits between checking the list

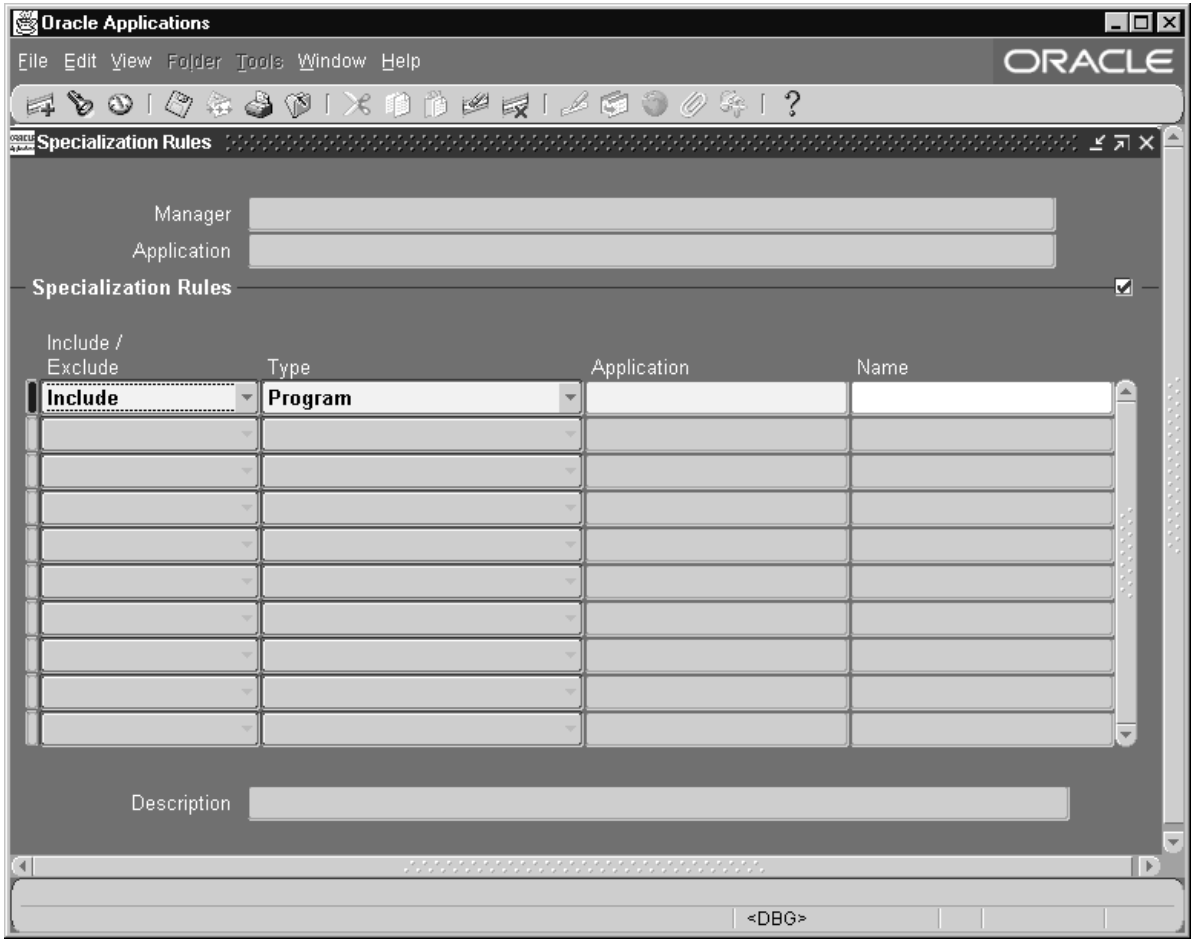
of pending concurrent requests (concurrent requests waiting to be started).

The default value is 60 (seconds).

Suggestion: Set the sleep time to be very brief during periods when the number of requests submitted is expected to be high.

Describe your application–ORACLE username pair, if you wish.

Specialization Rules Window



Specialize your manager to run only certain kinds of requests. Without specialization rules, a manager accepts requests to start *any* concurrent program.

Include/Exclude

Select from the poplist whether or not to include or exclude those requests that are based on the rule to run.

Type

Select the type of specialization rule you want to assign to your manager. Based on the rule's action you selected, allow or disallow, requests can be run by your manager according to a:

- Combined Rule

  For example, only requests that satisfy the combined rule you select are allowed to be run by your manager. Or conversely, requests that satisfy a certain combined rule are excluded from running.

  Combined specialization rules, which combine more than one logical statement, are defined using the Combined Specialization Rules form. See: Combined Specialization Rules: page 5– 102.

- ORACLE ID

  For example, programs with a certain ORACLE ID are excluded from running. Or conversely, a concurrent manager only includes programs with a specific ORACLE ID.

- Program

  For example, only the program you select is excluded from running. Or conversely, a concurrent manager only includes the programs you select. You can also include or exclude all programs belonging to a specific application using the Program type by entering the application in the Application field and leaving the Name field empty.

- Request Type (of the program)

  For example, programs of a certain request type are excluded from running. Or conversely, a concurrent manager only includes programs with the request type you select.

- User (application username at sign on)

  For example, all programs submitted by a certain user are excluded from running. Or conversely, a concurrent manager includes only programs submitted by the user you select.

Application

Select the application associated with your:

- Combined Rule

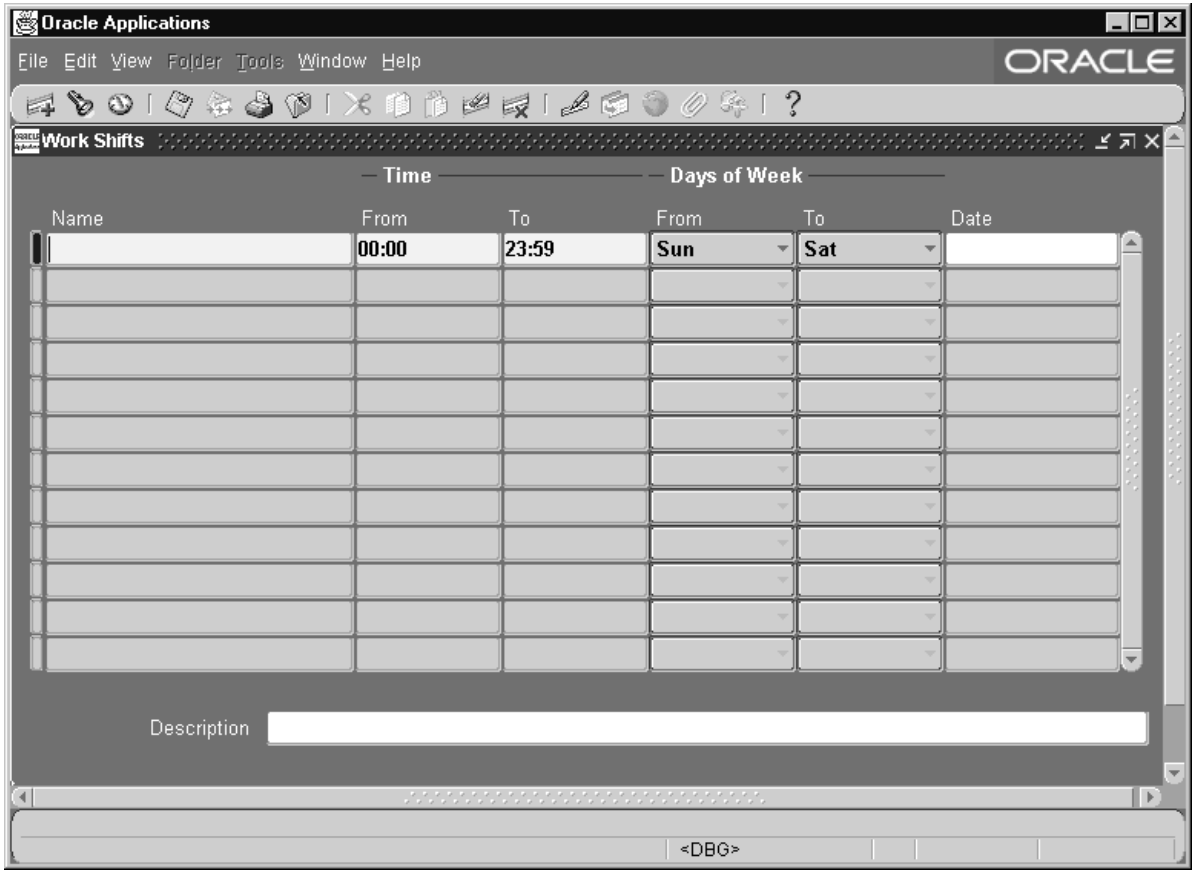
- Program
- Request Type

Name

Select the name of your:

- Combined Rule
- ORACLE ID
- Program
- Request Type
- User

Work Shifts Window



Use this window to name and define your concurrent manager work shifts. Define work shifts to specify when your concurrent managers can work.

For each work shift, specify a time period covering a range of days or a particular date. See: Work Shifts Definitions: page 5– 31.

Name

The name of your concurrent work shift should be intuitive, for instance ”Week Days”, ”Weeknights” or ”Weekends”.

From/To

Enter the times of day at which your concurrent shift begins/ends. The time format is HH24:MM. For example, if your work shift name is

”Week Days”, you could enter ”09:00” (9:00 am) as the start time and ”17:00” (5:00 pm) as the end time. Note that Oracle Applications uses a 24–hour clock.

Days of Week From/Days of Week To

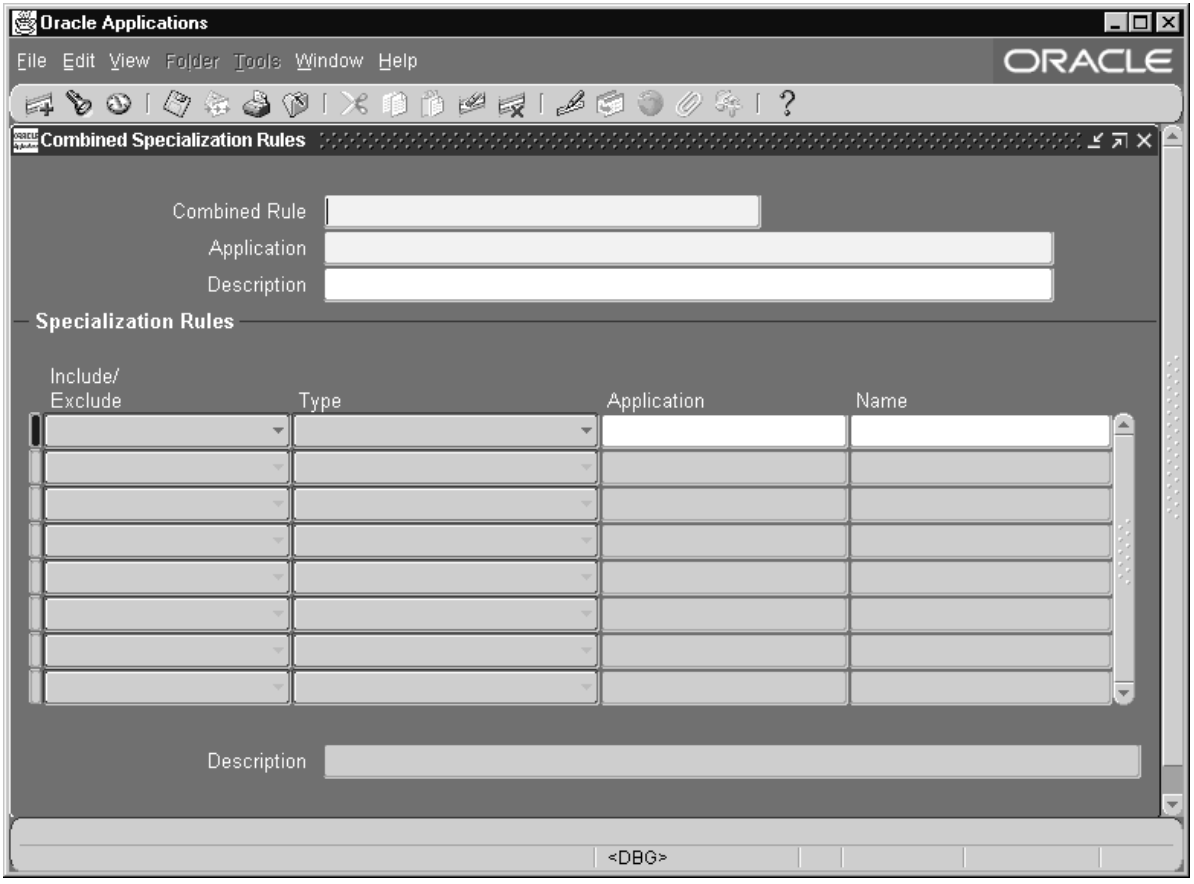
Enter the first and last days of this shift. For instance, if your shift name is ”Week Days”, you could enter ”Monday” in the ”Days of Week From” field and ”Friday” in the ”Days of Week To” field. If you enter a value in the ”Days of Week From” field, you must enter a value in the ”Days of Week To field”. You may not use the Date field for this row.

Date

Enter a date here to create a date–specific workshift. For instance, you can name a workshift ”Memorial Day”, and enter the date in this field to enable this workshift only on the Memorial Day holiday.

Date–specific workshifts override workshifts that do not specify a specific date. If you want to enter a value in this field (specify a date), you may not enter values for the Days of Week fields for this row. See: Overlapping Work Shifts – Priority Levels: page 5– 33.

Combined Specialization Rules Window



Define rules identifying which requests a concurrent manager can read. With the rules you define here, you may specialize the function of a concurrent manager.

Using this window, you can define several Include and Exclude statements, each referred to as a specialization line, and combine the lines into a single specialization rule referred to as a *Combined Rule*.

Unlike the individual rules you define using the Specialization Rules window from within the Concurrent Managers window, the combined rules you define here differ in two ways:

- You can combine Include and Exclude statements. This enables you to identify very specific requests for running concurrent programs.

- Within a combined rule, using multiple Include statements restricts a concurrent manager more.

  With individual rules you define using the Specialization Rules window (within the Concurrent Managers window), the more ”Include” rules you define, the less restricted a manager becomes.

See: Concurrent Managers: page 5– 92

Combined Specialization Rules Block

Together, the application name and the name you define for your combined specialization rule uniquely identifies the rule.

Application

The application name does not prevent a concurrent manager from starting programs associated with other applications.

Specialization Rules Block

Define the individual rules (statements) that make up your combined specialization rule.

- Each rule in this block defines one statement.
- The sum of all the specialization rules defines your combined specialization rule.

Include/Exclude

Select from the poplist whether to include or exclude those requests that are based on the rule to run.

Type

Select the type of specialization rule you want to enforce on a concurrent manager.

You cannot combine two Include rules of the same type.

- For example, you cannot include programs to be associated with an ORACLE ID, then, on another line, include programs to be associated with a second, different ORACLE ID.

Based on a rule's action, exclude or include, programs can be run by your manager according to a:

- ORACLE ID

  For example, programs with a certain ORACLE ID are excluded from running. Or conversely, a concurrent manager only includes programs with a specific ORACLE ID.

- Program

  For example, only the program you select is excluded from running. Or conversely, a concurrent manager only includes the programs you select. You can also include or exclude all programs belonging to a specific application using the Program type by entering the application in the Application field and leaving the Name field empty.

- Request Type (of the program)

  For example, programs of a certain request type are excluded from running. Or conversely, a concurrent manager only includes programs with the request type you select.

- User (application username at sign on)

  For example, all programs submitted by a certain user are excluded from running. Or conversely, a concurrent manager includes only programs submitted by the user you select.

Application

Select the application associated with your:

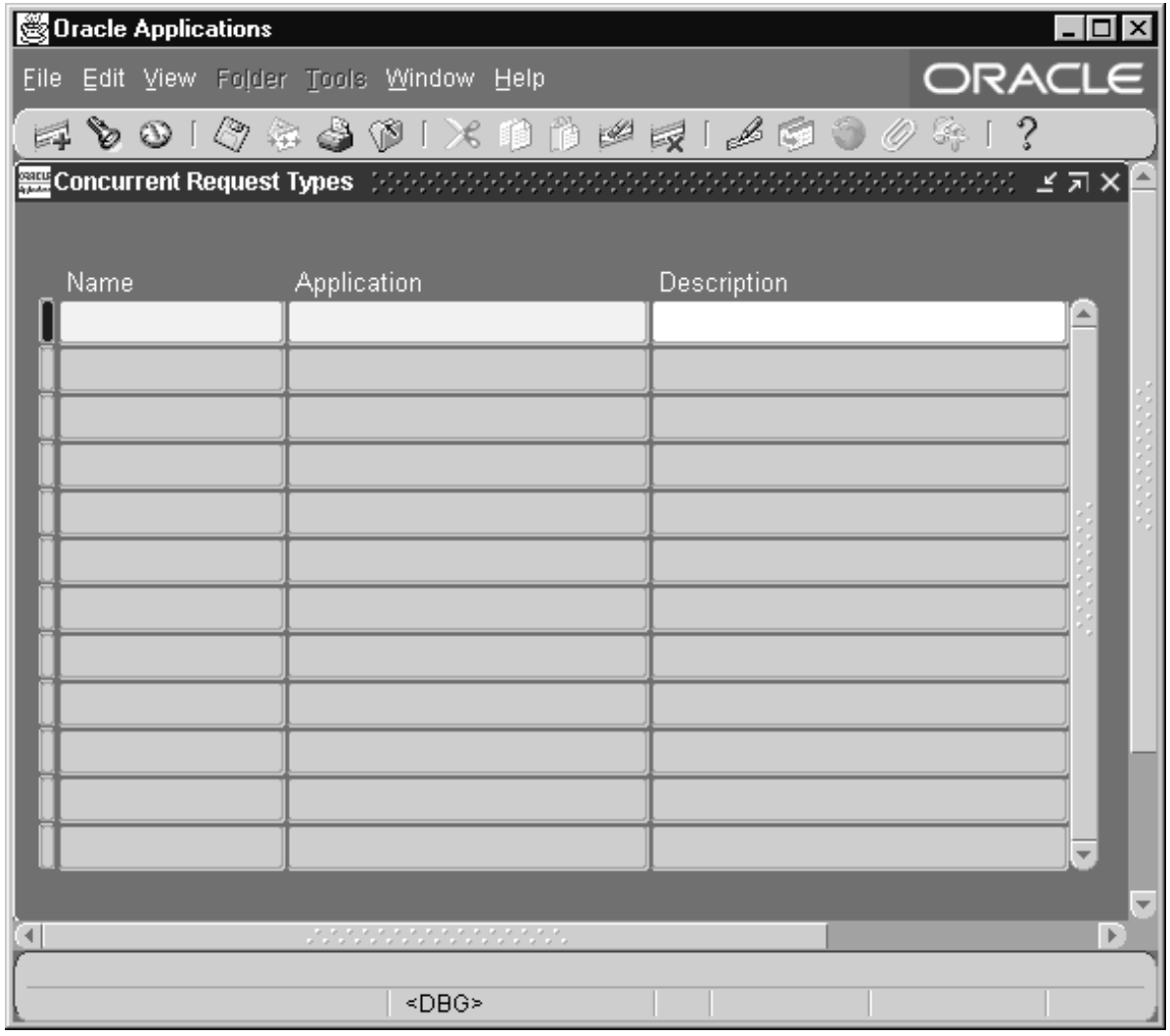
- Program
- Request Type

Name

Select the name of your:

- ORACLE ID
- Program
- Request Type
- User

Concurrent Request Types Window



Use this window to identify several concurrent programs as a group by assigning each program a common *request type*.

You assign a request type defined here to a concurrent program using the Concurrent Programs window. Then, when you define a concurrent manager using the Define Concurrent Manager window, you can define the manager to run (Allow) or not run concurrent programs based on their request type.

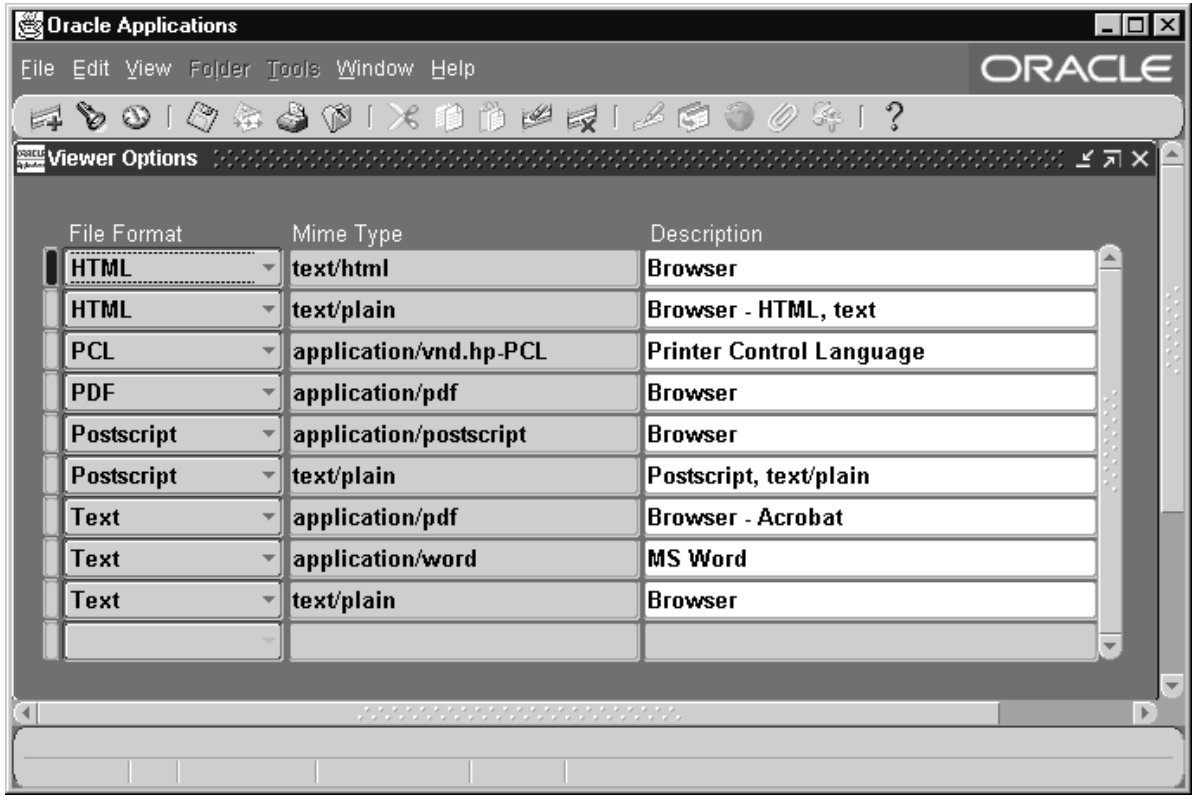
For example, you could define a request type as “end–of–month reports”, assign that request type to several concurrent programs, then define a concurrent manager to only run ”end–of–month” requests.

Concurrent Request Types Block

Name and describe each type of concurrent request you want to define. The combination of application name plus request type uniquely identifies your concurrent request type.

This application name does not prevent you from assigning this request type to concurrent programs associated with other application names.

Viewer Options Window



Use this form to define the MIME types for the output formats of your concurrent requests. These MIME types are used in viewing reports.

For each file format, you can associate one or more MIME types.

A user can use one MIME type to view reports of a certain format. For example, a user can view all text format reports in Microsoft Word. The MIME types for supported formats for a particular user are set by several profile options. They are:

- Viewer: Application for HTML
- Viewer: Application for PCL
- Viewer: Application for PDF
- Viewer: Application for PostScript
- Viewer: Application for Text

This MIME type is sent to a browser window when the user views a report of that file format.

Viewer Options Block

Associate one or more MIME types with each supported file format. By defining viewer options, you can specify the application or applications that are available for displaying files of each format.

File Format

The file format.

MIME Type

The MIME type to use for the file output.

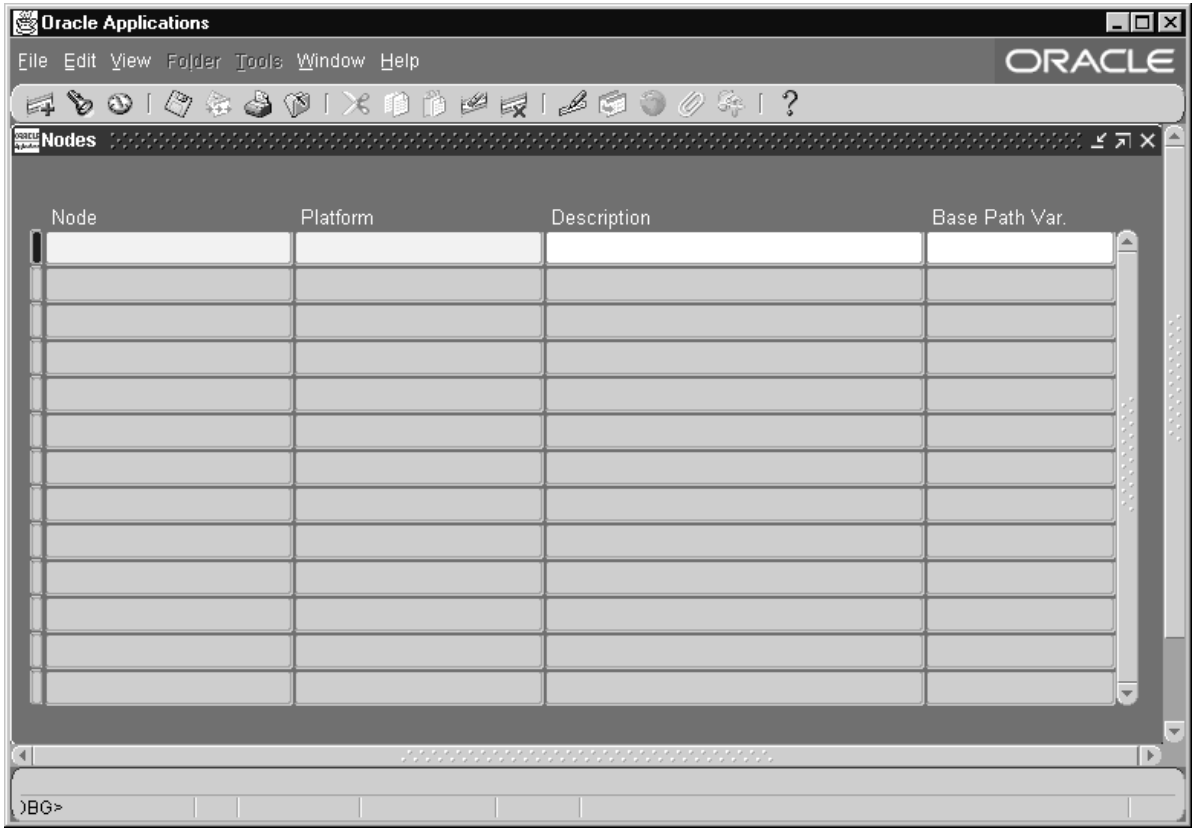
See Also

Defining the Reports Viewer: page 5– 13

Profile Options in Oracle Application Object Library page: A – 2

Oracle Applications User's Guide

Nodes Window



A node consists of one or more processors and their associated memory. In parallel concurrent processing environments (such as cluster, massively parallel, and homogeneous networked environments) each node operates independently of other nodes except when sharing resources, such as a disk.

You can assign concurrent managers to different nodes to spread your concurrent processing workload and increase throughput. A concurrent manager runs its processes on the nodes to which it is assigned.

Nodes Block

Node

Enter the operating system name of a node.

Platform

Select the operating system platform that your node resides on.

Base Path Var.

Consult your installation manual to determine the correct base path variable for your platform to determine the location of the concurrent managers' log and out files for this node.

CHAPTER

6

Printers

This chapter tells you everything you need to know about using printers with Oracle Applications. The essays in this chapter are organized under the following topics:

- Overview of Printers and Printing
- Setting Up Your Printers
- Customizing Printing Support in Oracle Applications
- Postscript Printing in UNIX
- Hierarchy of Printer and Print Style Assignments
- Upgrading Printer Files

Form descriptions follow at the end of the chapter.

Overview of Printers and Printing

This essay explains how Oracle Applications handles printing instructions. The executive summary presents the major relationships between printing functions, related forms, and Oracle Applications. More detailed explanations are provided in subsequent sections.

Executive Summary

Oracle Applications reports are generated by Oracle Reports. A completed report is sent to the operating system by the concurrent manager, which issues an operating system print command, or calls a custom print program that issues an operating system print command.

Oracle Reports and report generation

Page break, carriage return, line feed, text bold on / off, and text underline on / off instructions *within the output file* are defined by values in an SRW driver file.

Page break, carriage return, and line feed instructions that are issued *before* the output file is to be printed or *after* the output file is printed must be entered in an Oracle Applications printer driver's initialization or reset strings, which are defined by the Printer Drivers form.

SRW Drivers and Oracle Applications Printer Drivers

When the report is not to be printed (number of copies = 0 and the target printer field is blank), Oracle Reports uses the SRW driver named by the print style in the Print Styles form.

When the report is to be printed (number of copies > 0) Oracle Reports uses the SRW driver named by the Oracle Applications printer driver in the Printer Drivers form.

The dimensions of a report are determined by the columns and rows values in the print style, defined using the Print Styles form. These values override the width and height values in an SRW driver file.

Concurrent Manager Issues or Calls a Print Command

When a report is completed, the concurrent manager prepends an initialization string to the output file. The initialization string is defined using the Printer Drivers form.

The concurrent manager appends an reset string to the output file. The reset string is defined using the Printer Drivers form.

An Oracle Applications printer driver is typically executed in one of two methods, by issuing a print command or calling or print program.

When the printer driver method is *Command*, the concurrent manager can issue an operating system print command and arguments, entered in the Arguments field of the Printer Drivers form.

When the printer driver method is *Program*, the concurrent manager can call a custom print program, named (along with its path) in the Name field of the Printer Drivers form. Arguments to the program may be entered in the form's Arguments field.

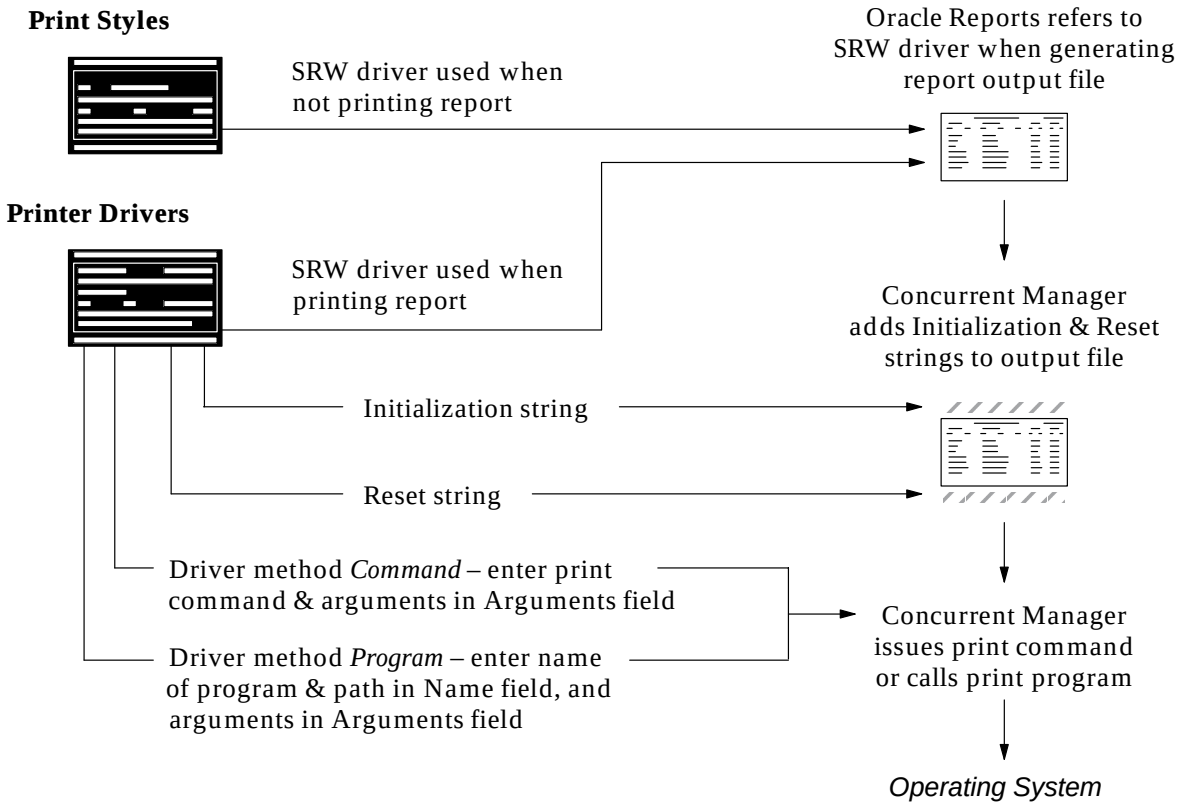
Concurrent Manager can provide values for arguments

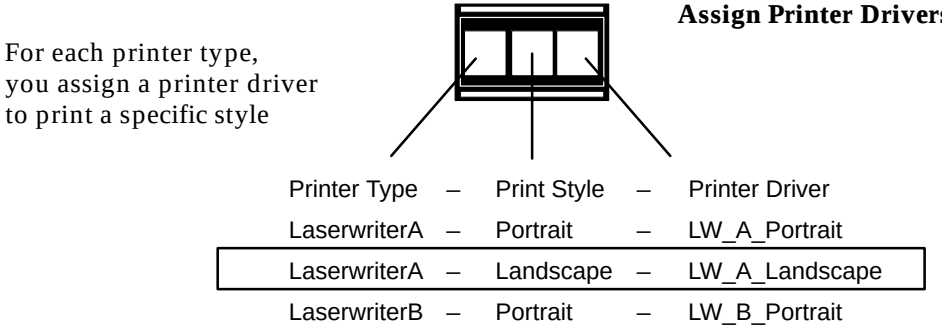
The concurrent manager may provide values for four arguments to an operating system print command or custom print program:

- the name of the file to be printed
- the operating system name of the target printer
- the title of the file, which appears on a header page if it is printed
- the number of copies to be printed

Figure 6 – 1

Summary of Oracle Applications Printing


Print Styles
SRW driver used when not printing report
Oracle Reports refers to SRW driver when generating report output file
Printer Drivers
SRW driver used when printing report
Concurrent Manager adds Initialization & Reset strings to output file
Initialization string
Reset string
Driver method *Command* – enter print command & arguments in Arguments field
Driver method *Program* – enter name of program & path in Name field, and arguments in Arguments field
Concurrent Manager issues print command or calls print program
Operating System


For each printer type, you assign a printer driver to print a specific style
Assign Printer Drivers
Printer Type – Print Style – Printer Driver
LaserwriterA – Portrait – LW_A_Portrait
LaserwriterA – Landscape – LW_A_Landscape
LaserwriterB – Portrait – LW_B_Portrait

Oracle Reports and Applications Printing

When you run an Oracle Applications report, Oracle Reports generates and formats the output.

Each report has a print style that defines its dimensions, that is, the number of columns and rows it contains.

Once a report is completed, an Oracle Applications printer driver attaches formatting instructions for the destination printer.

Text, document, and printer formatting instructions for printing a file generated by Oracle Reports are summarized in the table below.

Instruction	Explanation	Mechanism	Form
Format Text	Bold, underline, page breaks.	SRW driver control characters	Print Styles (printer not associated with concurrent request; i.e., copies = 0, printer field blank)
			Printer Drivers (printer associated with concurrent request)
Format Document	Width and height of report	Print Style number of columns and rows	Print Styles
Format Printer	Tell printer to print portrait or landscape, reset itself, etc.	Printer Driver initialization and reset strings	Printer Drivers

Table 6 – 1 (Page 1 of 1)

Printer Types, Print Styles, and Printer Drivers

The commands that a printer can understand vary from one type of printer to another. A *printer type* identifies a printer by manufacturer and model.

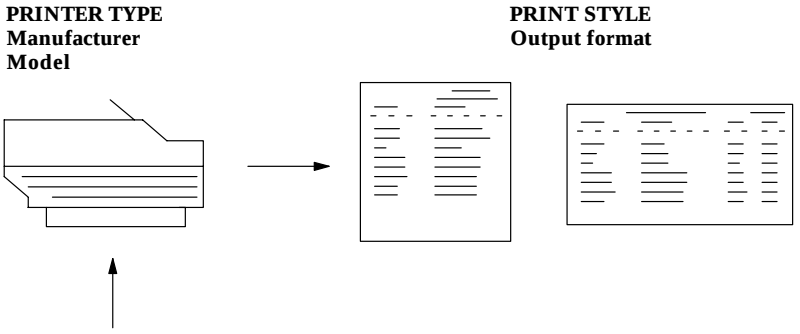
A *print style* tells the printer how a printed output should look. A *printer driver* delivers commands that tell the printer how to output the specified print style.

The ability to print a report in a particular print style depends on the type of printer the report file is sent to.

For each print style that a particular type of printer can print, a printer driver specific to the printer type and the operating system is required.

Attention: You must assign both a print style, and a printer driver to print that style, to each printer type you wish to print reports from in that style.

Figure 6 – 2



Printer Type What kind of printer you have. This is the manufacturer and model. Two examples are a DEC LN03 printer and an HP Laserjet III printer.

Print Style A description of how your report should be printed. Print style determines the:

– Number of lines per page.

– Width of each line.

– Whether a header page should be printed.

- Number of lines per page.
- Width of each line.
- Whether a header page should be printed.

Printer Driver The set of commands that tell a printer how to print in the Print Style chosen.

- Initialization sets printing orientation.

- Reset clears printer's instructions for next print job.

Sequence of Printing Events

The concurrent manager associates a print style and a printer driver with the destination printer's printer type. This combination of print style and printer driver is defined in the Printer Drivers form.

A printer driver formats the destination printer. An SRW Driver formats text and sets page breaks within an Oracle Reports file.

Sequence of Printing Events – Example

The following is an example of the sequence of printing events.

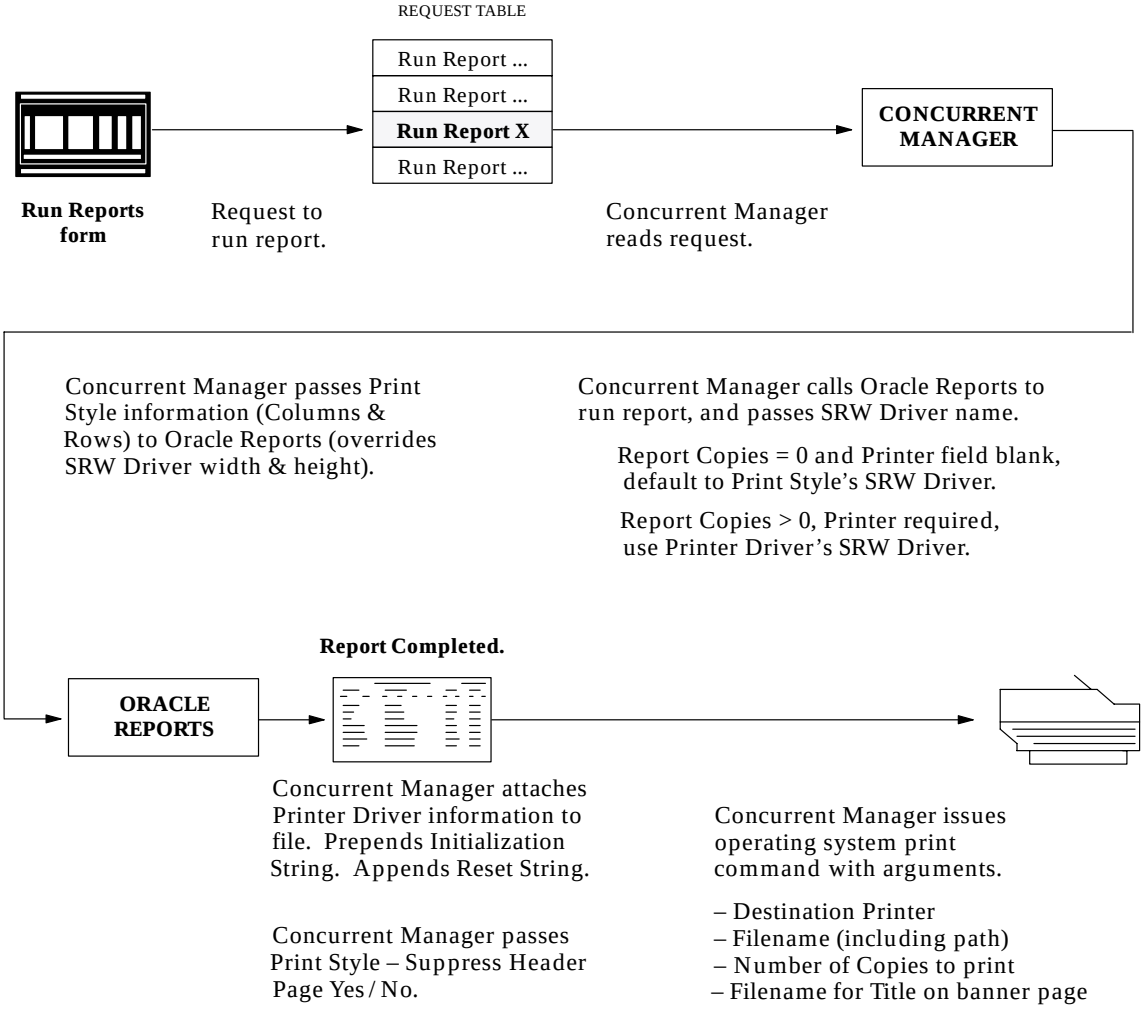
1. A user submits a request to run a report from the Run Reports form.
2. A request to run the report is added to the requests table.
3. A concurrent manager reads the request.
4. The concurrent manager calls Oracle Reports to run the report, and passes the SRW Driver name. If Report Copies = 0 and the Printer field is blank, the Print Style's SRW Driver is used. If Report Copies > 0 and Printer is required, then the Printer Driver's SRW Driver is used.

   The concurrent manager passes Print Style information (Columns and Rows) to Oracle Reports (overrides SRW Driver width and height).
5. A report is created using Oracle Reports. The concurrent manager attaches Printer Driver information to the file. It prepends the initialization string and appends the reset string.

   The concurrent manager also passes Print Style – Suppress Header Page Yes / No information.
6. The concurrent manager issues an operating system print command with the arguments Destination Printer, Filename (including path), Number of Copies to print, and Filename for Title on banner page.

Figure 6 – 3

Sequence of Printing Events – Simplified Summary


REQUEST TABLE
Run Report ...
Run Report ...
Run Report X
Run Report ...
CONCURRENT MANAGER
Run Reports form
Request to run report.
Concurrent Manager reads request.
Concurrent Manager passes Print Style information (Columns & Rows) to Oracle Reports (overrides SRW Driver width & height).
Concurrent Manager calls Oracle Reports to run report, and passes SRW Driver name.
Report Copies = 0 and Printer field blank, default to Print Style's SRW Driver.
Report Copies > 0, Printer required, use Printer Driver's SRW Driver.
Report Completed.
ORACLE REPORTS
Concurrent Manager attaches Printer Driver information to file. Prepends Initialization String. Appends Reset String.
Concurrent Manager passes Print Style – Suppress Header Page Yes / No.
Concurrent Manager issues operating system print command with arguments.
– Destination Printer
– Filename (including path)
– Number of Copies to print
– Filename for Title on banner page

Setting Character–Mode vs. Bitmap Printing

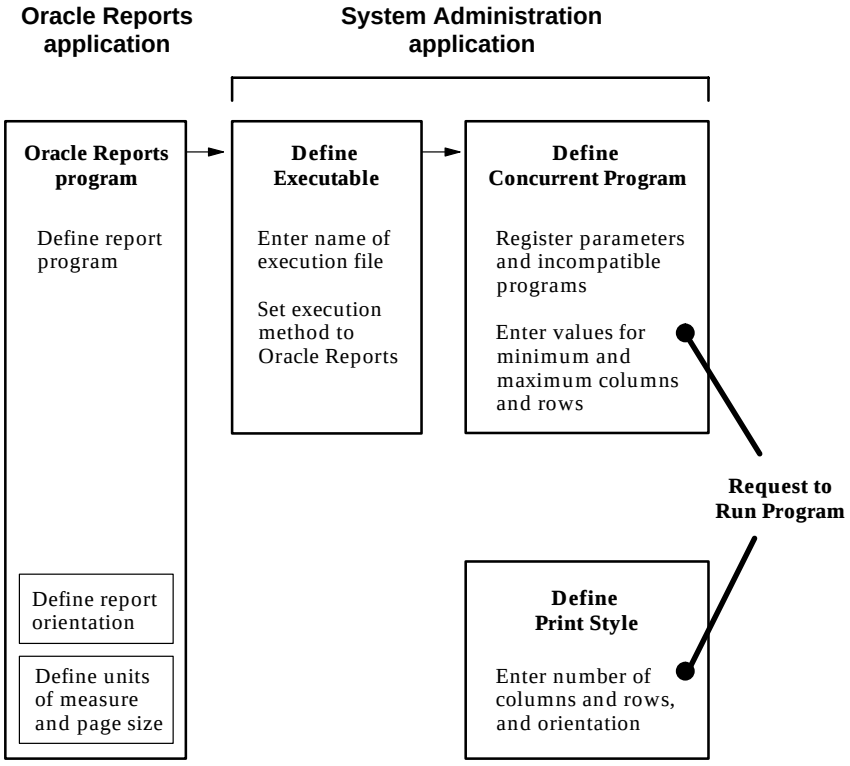
Running Character mode Oracle Reports Concurrent Programs

After you create an Oracle Reports program, you create a corresponding concurrent program executable with the Oracle Reports execution method.

You then define a concurrent program for that executable, registering any parameters and incompatible programs. You also enter the minimum column and row length, orientation, and print style.

Figure 6 – 4

Running Character Mode Oracle Reports Programs


Oracle Reports application
System Administration application
Oracle Reports program
Define report program
Define report orientation
Define units of measure and page size
Define Executable
Enter name of execution file
Set execution method to Oracle Reports
Define Concurrent Program
Register parameters and incompatible programs
Enter values for minimum and maximum columns and rows
Request to Run Program
Define Print Style
Enter number of columns and rows, and orientation

Running Bitmap Oracle Reports Concurrent Programs

Bitmap Oracle Reports programs are defined similarly in Oracle Reports and in the Concurrent Program Executable form.

To run an Oracle Reports program in bitmap mode, query the concurrent program's definition in the Concurrent Programs form, and choose PS in the Format field.

Bitmap Oracle Reports programs take their page dimensions and orientation from the program's definition (note: when printing a bitmap report, a print style is still required).

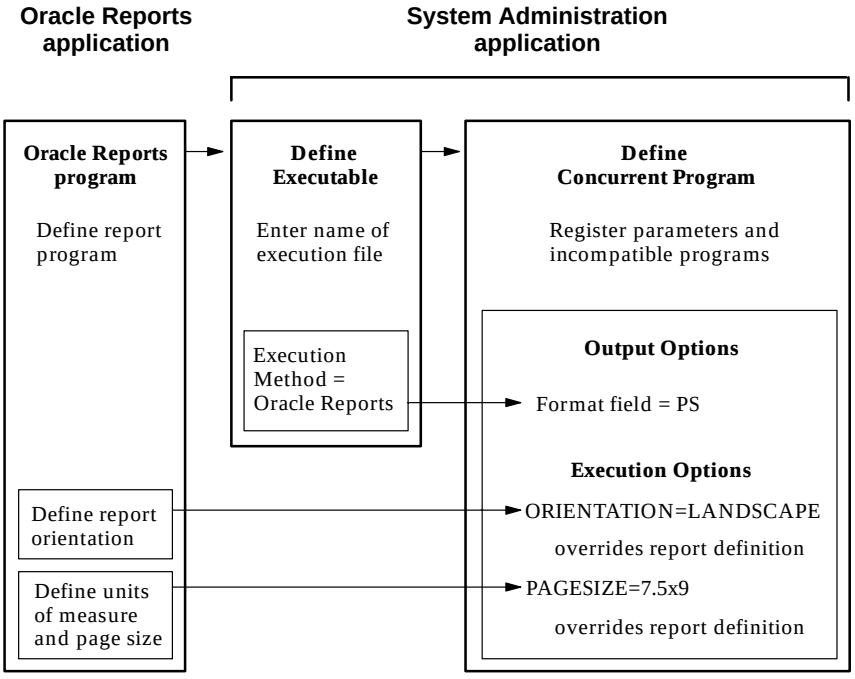
If you wish to override the program's definitions, you can enter values in the Execution Options field for ORIENTATION and PAGESIZE.

When entering more than one execution option, each option should be separated by a *single* space. There should be no spaces before or after the options. For example:

```
ORIENTATION=LANDSCAPE PAGESIZE=7.5x9
```

Figure 6 – 5

Running Bitmap Oracle Reports Programs



Notes about PAGESIZE in the Execution Options field

In Oracle Reports, when defining a report the units and size of the report are specified in the menu under Report–>Global Properties–>Unit of Measurement.

For bitmapped reports, <width>x<height> for PAGESIZE is usually in inches; however, this depends on the particular report definition.

You can enter the PAGESIZE parameter in the Execution Options field of the Concurrent Programs form (for bitmapped reports only) when

you want to override the values specified in the report definition. For example:

```
PAGESIZE=7.5x9
```

If the dimensions specified with the PAGESIZE parameter are smaller than what the report was designed for, you will generate a “REP–1212” error.

Defining Printer Types and Registering Printers

You register a printer so Oracle Applications recognizes the printer and can forward to it the output from a report program.

To register a printer with Oracle Applications, you must first specify what kind of printer it is by selecting a printer type. Because many printers can be registered as the same type of printer, you need only define each printer type once.

You register individual printers with Oracle Applications by specifying the printer’s operating system name, which uniquely identifies the printer, and selecting the type of printer it is.

For example, if you want users of Oracle Applications to be able to print to a newly purchased printer, you:

- Register the operating system name of the new printer (e.g., printer39), and select the printer type (e.g. LN03).
- If the correct printer type is not defined, you must define the new printer type (e.g., LN03) before you can register the printer.

Print Styles

A Print style defines the page format for a printer; the number of columns (page width), and the number of rows (page length).

Each printer type (i.e., each printer) can have one or more associated print styles.

Print styles allow you to setup report dimensions on a variety of printers. You can tailor your page setups while providing consistent–looking reports from printer–to–printer.

- For example, users may wish to print a menu report with a wider left margin to allow for hole punching the paper.
- As System Administrator you register this new style, which users can then access if the printer (type) supports it.

At report submission time, users select the style in which to output the report.

- Only styles available on the destination printer are displayed.
- Some concurrent programs predefine either the printer or the print style, and these values may not be changed.

Printer Drivers

To print in a particular style from a specific type of printer, you define a printer driver. A printer driver is the mechanism that delivers a report's output along with its commands to the target printer.

Concurrent managers determine what drivers to use depending on what the print style is and what printer (type) the report is to be sent to.

Defining a printer driver allows you to enter information specific to a printer type which makes it print in the style you want.

You need to define a printer driver for each print style that you want to use with a specific printer type on a specific platform.

Printer Driver Definition

A printer driver definition consists of the following information:

Name	The name you give to your printer driver
Platform	The platform (if any) that this driver is specific to
SRW Driver	The name of the SQL*ReportWriter (SRW) driver (if any) that should be used for generating an SRW report.
Printer driver method	How your printer driver is invoked. Drivers can be invoked as operating system commands, programs, or subroutines.
Description	A description of your driver.
Program Name	The name of the program that invokes printing.
Arguments	Any standard arguments for your program (if method is Program) or the print command along with its arguments (if method is Command).
Initialization	Escape sequences to initialize your printer for your print style. The initialization string tells the printer

how to orient the characters on the page, for example, whether to print portrait or landscape.

Reset

Escape sequences to reset your printer once printing completes. To use an analogy, the reset string is similar to erasing a blackboard full of instructions, so the next set of commands will not be misinterpreted.

Setting Up Your Printers

Oracle Applications provides you with predefined printer types, print styles, and printer drivers. Use the Printer Types form to query the combinations of print style and printer driver that support each type of printer you may have. Customize the predefined components as desired or if necessary. See: Customizing Printing Support in Oracle Applications: page 6 – 17.

Attention: Predefined printing components may have to be modified for different printer types and / or operating platforms.

Forms for Defining Printer Support

You use four forms to define printer support.

Printer Types

You must define any printer types (i.e., manufacturer and model) used at your site that are not shipped with Oracle Applications. Also, for each print style you wish to output from a particular printer type, you need to assign to the printer type a combination of a print *style* and a printer *driver*.

Printers

When you register a printer with Oracle Applications, you identify the printer by its operating system name, and assign it a printer type.

You can only register a printer as a previously defined printer type.

Print Styles

To generate a report, the print style values for columns and rows are passed by the concurrent manager to Oracle Reports (i.e., values for the PAGESIZE token). A print style determines the dimensions of your report, or the:

- Number of lines per page (number of rows or page height).
- Width of each line (number of columns or page width).

Printer Drivers

A printer driver includes the initialization and reset strings that format and restart a printer. You need a defined printer driver for each print style that you plan to use with a specific printer type, on a specific platform.

Printing Setup Interrelationships

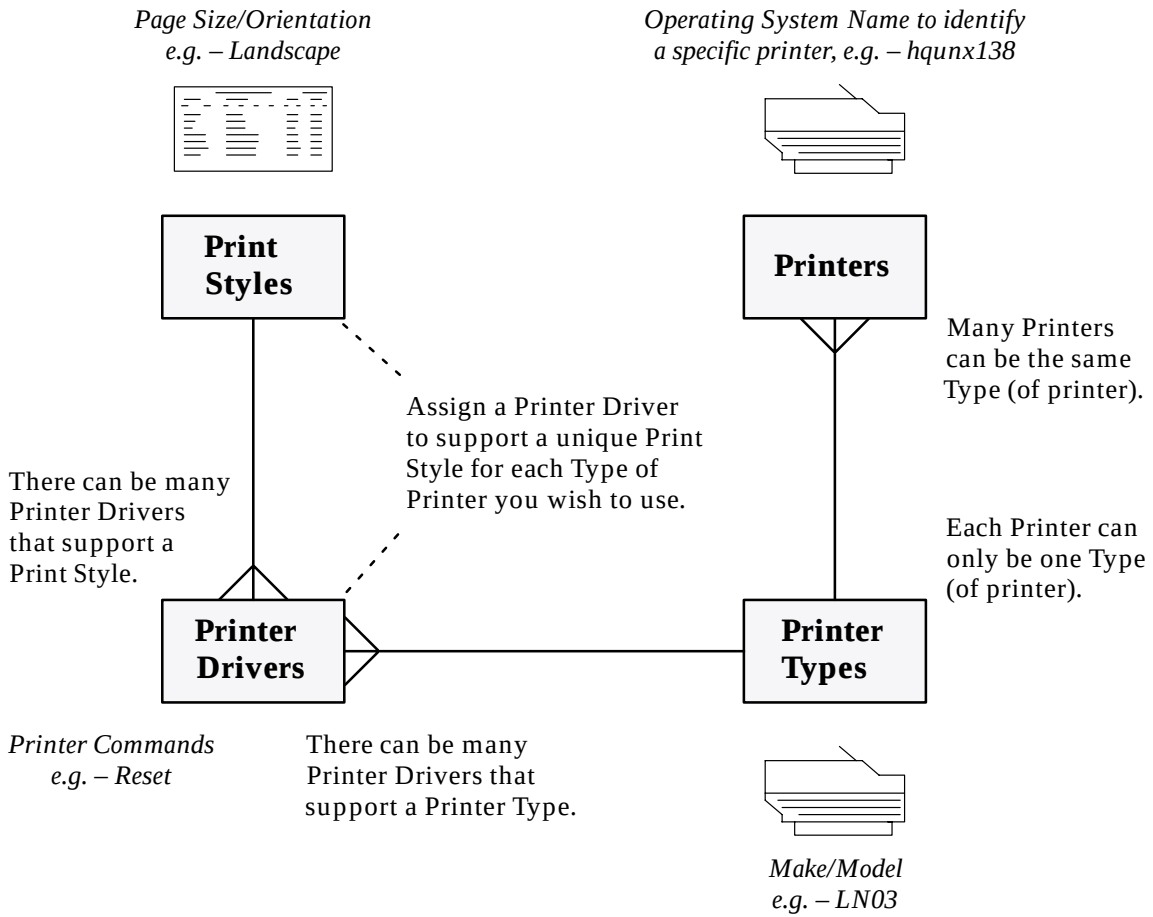
In the diagram below, a single line indicates “one” and three lines branching out indicate “many”. For example, a printer can only be one printer type, and a printer type can be assigned to many printers.

- Many printers can be registered as a particular printer type.
- A printer type can support multiple print styles.
- A printer driver must be assigned to a printer type for each print style you wish your output to be in.
- Many printer drivers can support a print style.
- Many printer drivers can support a printer type.

See: Overview of Printers and Printing: page 6 – 2

Figure 6 – 6

Printers, Printer Types, Print Styles, and Printer Drivers


Page Size/Orientation
e.g. – Landscape
Operating System Name to identify
a specific printer, e.g. – hqunx138
Print Styles
Printers
Many Printers can be the same Type (of printer).
Assign a Printer Driver to support a unique Print Style for each Type of Printer you wish to use.
There can be many Printer Drivers that support a Print Style.
Each Printer can only be one Type (of printer).
Printer Drivers
Printer Types
Printer Commands
e.g. – Reset
There can be many Printer Drivers that support a Printer Type.
Make/Model
e.g. – LN03

Printer Setup Information Is Cached On Demand

Printer setup information; Printer Type definitions, Print Style definitions, and Printer Driver definitions, are read into memory (cached) the first time the information is required to print a program's output.

The cache area that holds printer setup information is private to the concurrent managers. Printer setup information remains cached in memory until the concurrent managers are restarted, when the values are erased and new values are cached (read into memory).

Attention: You should issue a *Restart concurrent manager* command for all currently active managers whenever you edit an existing Printer Type, Print Style, or Printer Driver (unless the type, style or driver has not been referred to or cached yet).

See: Controlling Concurrent Managers: page 5 – 57

Customizing Printing Support in Oracle Applications

Oracle Applications provides numerous predefined printer types with which you can identify your printers, as well as print styles that define the dimensions of Oracle Reports output files, and printer drivers that instruct the various printer types how to output the selected print style.

Use the Print Styles form to query the combinations of print style and printer driver that support each type of printer you have.

Attention: Predefined printing components may have to be modified for different printer types and / or operating platforms.

For example, if a blank or extra page is being printed after each printed page, the number of rows defined for the print style may need to be reduced, or an escape sequence that is being interpreted differently, creating a page eject command, may have to be rewritten.

Verify and, if necessary, Customize Printer Driver Definitions

Upon installation, for any printer type you are using, verify your printer driver definitions, particularly the driver's:

- Initialization string

  Print a short report to verify the page's printing orientation. If you want to change the printer's default font for the report, you would include that information in the Initialization string.

- Reset string

  Print two short reports with different printing orientations, for example, one that is landscape and another that is portrait, to verify the printer is resetting itself properly.

- Arguments

  Print a short report to verify the arguments to the operating system's print command or a custom print program are being interpreted correctly.

If you need to define a new print style, verify the printer driver you assign to the new print style, for any printer type you use.

Verify and, if necessary, Customize Oracle Reports SRW Drivers

If you have a printer type that does not properly interpret the control characters in the SRW driver files that set page breaks, bold on / off and underline on / off attributes in your Oracle Reports files, you can copy the SRW driver file and modify it.

If necessary, edit the Initialization string and the Reset string for the printer type you are using. Refer to your printer's user guide for instructions. The Initialization and Reset fields appear on the Printer Drivers form.

Edit your Initialization string or Reset string if:

- Your printer type requires different control characters.
- The control characters have a different meaning due to your operating system and platform.
- Language translation changes the meaning of the control characters. The printer needs special control characters to select different character sets.
- You want to change the printer's default font for the report (Initialization string only).

Printer Driver Methods

There are three methods to invoke a printer driver:

Command The concurrent manager can issue an operating system print command and its arguments.

An operating system print command, along with all its arguments, is entered in the Arguments field of the Printer Drivers form.

Program The concurrent manager can call a custom print program and pass arguments to the program.

The name of a custom print program is entered in the Name field, and any arguments to be passed to the program are entered in the Arguments field, of the Printer Drivers form.

Subroutine The concurrent manager can call a predefined Oracle Applications subroutine that passes a print command and arguments to the printer via the operating system.

A subroutine is predefined by Oracle Applications, and the name is entered in the Name field of the Printer Drivers form.

The arguments field is disregarded when the driver method is *Subroutine*. However, the concurrent manager reads the Initialization and Reset escape sequences.

On UNIX systems, the subroutine method, unlike the command method, does not start an operating system shell along with the print command.

Example – Using the Program Driver Method

The Program driver method allows customers to define their own custom print programs. For example, your company might want to write a custom program that opens a file, allows the file to be edited and saved under a second filename, then sends the second (edited) file on to the printer by issuing the print command. This method of issuing print commands is called a *filter*.

Location for Custom Print Programs

To call a custom print program using the Printer Drivers form, the program name, including the full path to the program, should be entered in the Program Name field.

The path to the program name is not necessary if the program's location can be identified by the operating system's PATH environment variable (i.e., is in the $PATH variable name).

For platforms where the equivalent of a $PATH variable doesn't exist, then use the full path name. A path can be up to 255 characters.

Custom print programs are not registered as concurrent programs with Oracle Application Object Library, but are called after the concurrent process has completed.

Using Operating System Shell Scripts

For operating system shell scripts, the printer driver method can be either command or program, as long as you populate the argument field correctly.

The script for a command shell procedure, for example, a UNIX shell or a VMS dcl, should reside in:

- $FND_TOP/$APPLBIN.

Arguments That a Concurrent Manager Can Supply Values For

The concurrent manager can supply four different values as arguments to the operating system print command it issues, or a custom print program that it calls. An example of using these values as arguments follows.

Example – Entering a Print Command and Arguments

In this example, the UNIX print command lp is entered along with the arguments that a concurrent manager can supply values for. While print commands vary, the tokens for which values are retrieved are always the same.

Since print commands are operating system dependent, please refer to *Installing Oracle Applications.*

```
lp -d$PROFILES$.PRINTER -n$PROFILES$.CONC_COPIES -t"$PROFILES$.TITLE"
$PROFILES$.FILENAME
```

The following table lists arguments and their actions for the UNIX `lp` print command:

Argument Syntax	Token and Value Retrieved
–d$PROFILES$.PRINTER **–d** calls out the destination printer.	**$PROFILES$.PRINTER** retrieves the operating system name of the printer associated with the request.
–n$PROFILES$.CONC_COPIES **–n** calls out the number of copies to print.	**$PROFILES$.CONC_COPIES** retrieves the value of the profile option *Concurrent:Report Copies*, unless this value is updated at runtime.
–t"$PROFILES$.TITLE" **–t** calls out the report title to print on a banner or header page.	**"$PROFILES$.TITLE"** retrieves the title of the output file, typically titled as *Application username.Request ID*. For example, if user John Smith ran a report whose concurrent request ID was 64225, the title would be JSMITH.64225. This is operating system dependent.
$PROFILES$.FILENAME	**$PROFILES$.FILENAME** calls out the filename of the report to be printed. The value retrieved is the output file name, including the path to the file.

Table 6 – 2 (Page 1 of 1)

Using Standard Input

When Standard Input is set to Yes, the printer driver accepts standard input, so you can feed a report's output directly to the printer from standard input. Two examples of using standard input are:

- when you run a pipe in UNIX such as "cat myfile | lpr" rather than "lpr myfile"; the output file is sent to the stdin (standard input).
- the UNIX command lpr, which accepts standard input when a filename is not specified.

The Standard Input field should be set to No when the Driver Method is set to Program, or Subroutine. Unless the program accepts standard input, the Standard Input field should always be set to No.

Attention: When Standard Input is set to No, the print command issued by the concurrent manager runs asynchronously. That is, the concurrent manager issues the command, and does not wait for an operating system response.

Using Initialization and Reset Strings

Use the initialization and reset strings to set and reset the orientation, character set and line density for your printer.

Initialization and reset strings consist of control characters and escape sequences.

- A control character can be represented by " ^ " followed by another character.
- An escape sequence can be identified by either " /e " or " \e ".

Attention: You see "/e" for escape sequences defined using the Printer Drivers form (because you cannot enter the backslash (\ ) character into a form when your terminal definition uses backslash as the [Menu] key). You see "\e" for escape sequences originally defined in .pdf files that were upgraded to release 11 printer drivers.

For non–printable characters, you may represent their value in octal mode. For example, 0x26 is represented as " /046 ". As an example, if you need to represent the escape sequence:

^ [^ L ^ [l 6 D (0 x 26)

you can represent it as:

/ e ^ L / e l 6 D / 0 4 6

Using a Spool File

When Spool File is set to No, then a temporary file is created where the initialization and reset strings are inserted, and the file is sent to the print command or program.

Set the Spool File to Yes only if the print program creates its own temp file. This option is recommended when using the Program driver method and the print program creates its own temp file.

This option helps to reduce the creation of temp files, since the concurrent manager will not create a temp file when Spool File is set to Yes.

When Spool File is set to Yes, it is recommended that the:

- Standard Input be set to No
- Initialization and reset fields are null (i.e., fields are blank).

This option does not apply to the Subroutine driver method.

Creating Custom SRW Drivers

SRW drivers are read by Oracle Reports when a report is generated, and insert control characters that tell the destination printer where to set page breaks, and which characters to format as bold or underlined.

SRW drivers only pertain to Oracle Reports output files. An SRW driver is used during the generation of a report. A printer driver is used when the completed output file is sent to the printer.

SRW drivers are designed for the DEC LN03 printer, and all printers that understand the same control characters as the LN03.

Location and Content of SRW Driver Files

SRW driver files reside in $FND_TOP/$APPLREP, and have the file extension ".prt". The predefined SRW file names are:

- A.prt
- P.prt
- L.prt
- PD.prt
- W.prt

Creating a Custom SRW Driver

You can customize any of the SRW driver files to support a printer type that is not correctly interpreting the control characters used to set page breaks and format text as bold or underlined in Oracle Reports files.

For example, you may need to change the control characters that instruct the printer to set a page break.

```
on an LN03  on an XYZ LaserInk
```

```
new page ...        ^L     ^[E
```

If you need to change formatting control characters for page breaks, underlined text, or bold text in Oracle Reports:

- Copy the .prt file (SRW driver) and rename the copy.
- Modify the new file with new control characters.
- Place the modified copy of the SRW driver file in $FND_TOP/$APPLREP.
- Oracle Reports will use the new driver if it is associated with a print style and/or printer driver definition.

Attention: Copy the SRW driver (.prt file) and rename it before starting any text editing.

SRW Drivers – Print Styles and Printer Drivers

When the concurrent manager calls Oracle Reports to run a report, the SRW driver name is passed as a parameter to Oracle Reports.

The SRW driver is not required since some customers might be using styles or printer drivers for non–Oracle Reports programs.

The SRW driver name you enter in the Print Styles and Printer Drivers forms are used for slightly different reasons.

If you run an Oracle Reports program without printing the output file, that is, when the number of copies is zero (0) and the printer field is blank, the SRW driver associated with the report's print style is used.

If you run an Oracle Reports program and print the output file, that is, when the number of copies is greater than zero (0), the SRW driver that is correct for the type of printer the report is being printed from is chosen by selecting the SRW driver associated with the printer type.

Postscript Printing in UNIX

You can convert your report output files into postscript format when printing in some UNIX environments by using the *enscript* UNIX utility.

Attention: Refer to your UNIX documentation before using enscript. Usage and the arguments employed by enscript may be specific to your platform.

Concurrent Manager Arguments

The concurrent manager can supply four different values as arguments to an operating system print command or custom print program. See the example of using all four values provided by the concurrent manager. See: Passing Arguments to UNIX lp Print Command: page 6 – 20.

See the example of using the enscript UNIX utility and two of the values the concurrent manager supplies as arguments. See: Example – Using the UNIX Enscript Command: page 6 – 25.

Enscript Arguments and Print Styles

The following table lists some sample enscript arguments, using the Courier font, for converting a report's output into postscript for the portrait, landscape, landwide, and A4 print styles.

Print Style	Enscript Arguments	Explanation	Result
Portrait	–fCourier10	Font is Courier 10 point.	80 characters portrait
Landscape	–r –fCourier8	**–r** rotates the printer's output 90 degrees to print in landscape mode. Font is Courier 8 point.	132 characters landscape
Landwide	–r –fCourier6	**–r** rotates the printer's output 90 degrees to print in landscape mode. Font is Courier 6 point.	180 characters landscape
A4	–fCourier10	Font is Courier 10 point.	132 characters landscape (A4 paper)

Table 6 – 3 (Page 1 of 1)

Example – Using Enscript to Print Postscript

In this example, the enscript command, followed by its arguments, is entered in the Arguments field of the Printer Drivers window, and the Driver Method would be set to *Command.*

Printer Drivers window Arguments field:

```
enscript -r -fCourier8 -B -P$PROFILES$.PRINTER $PROFILES$.FILENAME
```

The following table explains the syntax for the enscript command.

Syntax	Explanation
–r	Enscript argument. Rotates the printer's output 90 degrees to print in landscape mode.
–fCourier8	Enscript argument. **–f** selects the font, in this example the font is Courier with a point size of 8.
–B	Enscript argument. Omits page headings.
–P$PROFILES$.PRINTER	Enscript argument. **–P** precedes the name of the printer which the output is sent to. Concurrent manager token. **$PROFILES$.PRINTER** retrieves the operating system name of the printer associated with the request.
$PROFILES$.FILENAME	Concurrent manager token. **$PROFILES$.FILENAME** calls out the filename of the report to be printed. The value retrieved is the output file name, including the path to the file.

Table 6 – 4 (Page 1 of 1)

In this example, the UNIX enscript command is entered along with two of the four arguments that a concurrent manager can supply values for.

- Since the argument "$PROFILE$.CONC_COPIES" is not used, the number of copies to be printed is set by the enscript default (which is usually one).
- Since the argument "$PROFILE$.TITLE" is not used, the concurrent manager does not provide a value for printing the report title on a banner or header page.

Hierarchy of Printer and Print Style Assignments

A printer and a print style can be chosen and their identities can be included in a concurrent program's definition. When a concurrent program is defined to send its output to a specific printer, or is required to generate its output in a specific print style, those values cannot be overridden by users, or by report set default settings, or by user profile default settings.

Often, a default value can be set in more than one way. This leads to a hierarchical relationship among the various default settings, where one default takes precedence over another. The diagram below illustrates the order of how printer or print style values are read by the concurrent manager when submitting a report program to run.

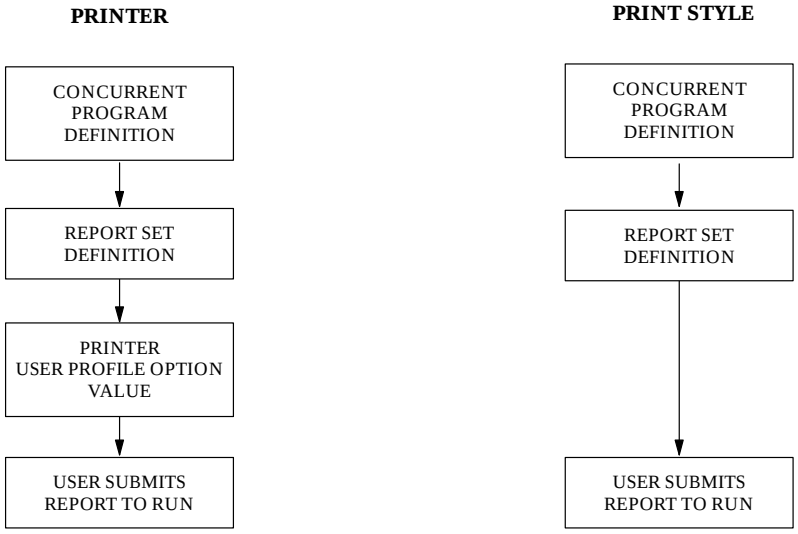
Attention: Defining a concurrent program with a default print style, or requiring a concurrent program to output a specific print style, does not make that style available at a printer. You must assign the print style, and its corresponding printer driver, to each printer type you wish to print from.

The concurrent manager reads the printer value using the following hierarchy: concurrent program definition, report set definition, printer user profile option value, and value specified by user during report submission.

The concurrent manager reads the print style value using the following hierarchy: concurrent program definition, report set definition, and value specified by user during report submission.

Figure 6 – 7

Order of Reading Printer or Print Style Settings



Hierarchy of Printer Assignments

As System Administrator, you can restrict concurrent programs and reports to direct their output to a specific printer. Restricting a program or report's output to a specific printer overrides user profile option settings and prevents report set or user runtime printer choices.

If a printer is not included as part of a concurrent program's definition, then default printer settings may be entered, as indicated in the table below. Users can override any default setting at runtime.

The following table describes the printer assignment hierarchy:

Form	Explanation
Concurrent Programs *System Administrator*	As System Administrator, you can define a concurrent program to always direct its output to only one specific printer. This setting cannot be overridden at runtime or when defining a report in a report set.

Table 6 – 5 (Page 1 of 2)

Form	Explanation
Request Set *System Administrator*	As System Administrator, you can assign a default printer to a report within a report set.
Request Set *Application Users*	Users can assign a default printer to a report within a report set, when they own the report set. This default setting can be changed by the System Administrator.
Personal Profile Values *Application Users*	Users can assign a default printer for all their reports using their Personal Profile Values form. This assignment overrides the default Printer profile option set by the System Administrator.
System Profile Values *System Administrator*	As System Administrator, you can assign a default printer to an installation site, Oracle application, responsibility, or user. Users can override this setting at runtime.

Table 6 – 5 (Page 2 of 2)

Hierarchy of Print Style Assignments

As System Administrator, you can require concurrent programs and reports to generate their output in a specific print style. Requiring a program's or a report's output to be in a specific print style prevents report set or user runtime print style choices.

Requirements for alternate print styles

All concurrent programs whose execution method is "Oracle Reports" require a print style to be selected when the program is defined. When the print style is not designated as a *required* print style, then other print styles may be selected, either as a default for a report in a report set, or at runtime when submitting the report, if two conditions are satisfied:

- The print style complies with the concurrent program's minimum values for columns and rows (entered on the Concurrent Programs form).
- The print style has been assigned to the destination printer's printer type (entered on the Printer Types form).

The following table describes the print style assignment hierarchy:

Form	Explanation
Concurrent Programs *System Administrator*	As System Administrator, you can require a concurrent program to generate its output in a specific print style. This setting cannot be overridden at runtime or when defining a report in a report set. If a Print Style is entered in a program definition, but is not required, it serves as the first default setting to be read.
Request Set *System Administrator*	As System Administrator, you can assign a default print style to a report within a report set.
Request Set *Application Users*	Users can assign a default print style to a report within a report set, when they own the report set. This default setting can be changed by the System Administrator.

Table 6 – 6 (Page 1 of 1)

System Administrator Printer and Print Style Settings

Program Definitions, Printers and Print Styles

As System Administrator you can restrict programs to send their output files only to a specified printer, for example, a printer in a secure office, using the Concurrent Programs form. You can also require a report to generate its output in a specific print style.

Assigning Default Printers and Print Styles to Reports in a Set

As System Administrator you can identify a default printer for each report within a report set, and assign a default print style for each report, using the Request Set form.

Assigning Default Printers Using Profile Options

As System Administrator you can identify a printer as a *default printer* for your installation site, a specific Oracle Application, a specific

responsibility, or any of your end users, by setting the “Printer” user profile option in the System Profile Values window.

Users can override a default profile option value by:

- Setting their own personal “Printer” profile option using their Personal Profile Values form.
- Selecting another (available) printer at runtime when submitting a report.

End User Printer and Print Style Settings

End users may:

- Set default print styles for reports in their report sets, using their Request Set form.
- Identify a default printer of their own by using the Personal Profile Values form.

  Users may override the default profile option setting their System Administrator defines.
- Choose any available printer and print style when running reports, when using the Run Reports form.

  If a default printer or print style displays, users may override the default if other printers or print styles are available.

Printing with UTF8

Note: For updates and details on printing reports when your character set is UTF8, please refer to Oracle MetaLink.

In order to print reports with the UTF8 character set, you must configure PASTA. PASTA enables printing of any language on English–only PostScript printers. Note that PASTA allows printing of text files, but not of PostScript or PDF reports.

Font Files

To obtain the appropriate font files, please refer to Oracle MetaLink.

Installing PASTA

To install PASTA you need to install the executable file, the configuration file and the font files. Installation must be done by applmgr account.

UNIX

The PASTA utility is installed with Rapid Install.

The following .o files are placed in $FND_TOP/lib/libfnd.a: afcharrp.o, afcs2uni.o, affntgen.o, affntrep.o, affntlst.o, afshape.o, afttf2t3.o, afttflib.o, afunicd2.o.

The executable FNDPSTAX is placed in $FND_TOP/bin.

The font files must be placed in `$FND_TOP/$APPLRSC`.

The configuration file pasta.cfg is placed in $FND_TOP/$APPLRSC.

Win32

PASTA is installed when FND (Application Object Library) is installed. See the above description for UNIX for details.

Defining Printer Drivers for Printing International Reports

Typically you define three drivers for the most commonly used styles (Portrait, Landscape & Landwide) in Oracle Applications. You may

want to define additional printer drivers depending on your requirements.

Use the Printer Drivers Window to define your drivers. Enter only the specified fields below, and use defaults for others. All parameters are case sensitive.

Printer Drivers Window: page 6 – 48

Portrait Driver

Use the following parameters.

Driver Name PASTA_PORTRAIT

User Driver PASTA Portrait Driver

SRW Driver P

Driver Method Program

- – Driver Method Parameters
  - – Win32:

    Program Name = {FND_TOP}\bin\FNDPSTAX
  - – UNIX:

    Program Name = $FND_TOP/bin/FNDPSTAX

  Note: FND_TOP is your system's value of %FND_TOP% and $FND_TOP. Do not place %FND_TOP% or $FND_TOP directly in this field.

For Win32, specify the following arguments:

```
-Pd:$PROFILES$.PRINTER -c$PROFILES$.CONC_COPIES
-f$PROFILES$.FILENAME -C80
```

For UNIX, specify the following arguments:

```
-P-d$PROFILES$.PRINTER -c$PROFILES$.CONC_COPIES
-f$PROFILES$.FILENAME
```

Landscape Driver

Use the following parameters.

Driver Name PASTA_LANDSCAPE

User Driver PASTA Landscape Driver

SRW Driver L

Driver Method Program

- – Driver Method Parameters
  - – Win32:

    Program Name = {FND_TOP}\bin\FNDPSTAX
  - – UNIX:

    Program Name = $FND_TOP/bin/FNDPSTAX

  Note: FND_TOP is your system's value of %FND_TOP% and $FND_TOP. Do not place %FND_TOP% or $FND_TOP directly in this field.

For Win32, specify the following arguments:

```
-Pd:$PROFILES$.PRINTER -c$PROFILES$CONC_COPIES -1
-f$PROFILES$.FILENAME -C120
```

For UNIX, specify the following arguments:

```
-P-d$PROFILES$.PRINTER -c$PROFILES$.CONC_COPIES -l
-f$PROFILES$.FILENAME -C120
```

Landwide Driver

Use the following parameters.

Driver Name PASTA_LANDWIDE

User Driver PASTA Landwide Driver

SRW Driver W

Driver Method Program

- – Driver Method Parameters
  - – Win32:

    Program Name = {FND_TOP}\bin\FNDPSTAX
  - – UNIX:

    Program Name = $FND_TOP/bin/FNDPSTAX

  Note: FND_TOP is your system's value of %FND_TOP% and $FND_TOP. Do not place %FND_TOP% or $FND_TOP directly in this field.

For Win32, specify the following arguments:

```
-Pd:$PROFILES$.PRINTER -c$PROFILES$CONC_COPIES -1
-f$PROFILES$.FILENAME -C180
```

For UNIX, specify the following arguments:

```
-P-d$PROFILES$.PRINTER -c$PROFILES$.CONC_COPIES -l
-f$PROFILES$.FILENAME -C180
```

Defining a Printer Type

Use the Printer Types Window to define your printer types in your PASTA setup. Specify the following:

Type PASTA PostScript

Description PASTA Driver for PostScript printers

The following table lists the printer drivers:

Style	Driver Name
PORTRAIT	PASTA_PORTRAIT
LANDSCAPE	PASTA_LANDSCAPE
LANDWIDE	PASTA_LANDWIDE

Printer Types Window: page 6 – 41

Defining a Printer

Define a printer to use the PASTA utility.

At least one printer must be registered prior to this step. Use the Printers Window to register a printer.

Printer Your operating system printer name

Type PASTA Postscript

Printers Window: page 6 – 43

PRT Files Setup

Make sure to have the following lines in the P.prt, L.prt & W.prt files under $FND_TOP\reports :

```
code "bold on" esc "[1m"
code "bold off" esc "[0m"
code "underline on" esc "[3m"
code "underline off" esc "[2m"
```

For the Arabic language you need to add the following lines to those files:

```
nls locale "arabic"
nls datastorageorder "logical"
nls contextuallayout "no"
nls contextualshaping "no"
```

Restart the Concurrent Manager after Defining the Printer

Note that the concurrent manager caches the above information, so after you make any changes you need to restart the concurrent manager.

When you restart the concurrent manager, set NLS_LANG to

`<lang>_<terr>.<characterset>`

where `<lang>` and `<terr>` are your desired language and territory, while `<characterset>` is the character set, for example, UTF8.

Configuration File Options

The configuration file pasta.cfg provides the PASTA program with some options. The file is a normal ASCII text file that has a simple format described below.

The options are indicated in the form key=value, where the available keys as listed in the following table:

Type	Key Name	Default Value	Description	Example Value
Required	fontpath	NA	Path to the normal Unicode font file. Typically you put the fonts in the $FND_top?$APPLRSC directory.	F:\pasta\fonts\amu642.ttf
Required	boldfontpath	NA	Path to the bold Unicode font file. Typically, you put the fonts in the $FND_TOP/$APPLRSC directory.	F:\pasta\fonts\ bold_amu642.ttf
Optional	fontsize	10	Font size. If this is not set, the font size is calculated automatically.	12
Optional	encoding	NLS_LANG	Report character encoding. This option is for advanced users only.	JAPANESE.UTF8

Type	Key Name	Default Value	Description	Example Value
Optional	direction	ltr	For BiDi data only. The two possible values are Left–To–Right (ltr) and Right–To–Left (rtl).	rtl
Optional	dolayout	yes	For BiDi data only. If you need to lay out the text, set this option to 'yes'. If not, set it to 'no'.	no
Optional	doshapping (sic)	yes	For BiDi data only. If the text needs to be shaped, set this option to 'yes'. If not, set it to 'no'.	no
Optional	numerals	arabic	This option has two possible values: 'arabic' for Arabic digits and 'hindi' for Hindi digits. Needed only with Arabic data.	hindi
Optional	prologue	NA	Path to a file to be included as a prologue to the generated PostScript file.	F:\pasta\prologue\prlg.ps
Optional	tabsize	8	Tab size.	8
Optional	printCommand	NA	The OS specific print command.	lp
Optional	printCommandOptions	NA	Extra options needed for the print command.	–c
Optional	lines	NA	Number of lines per page. It is recommended that this option is not set.	32
Optional	pagewidth	8.27	The page width in inches. Use this option to adjust to print on A4 or different paper sizes.	8
Optional	pageheight	11.64	The page height in inches. Use this option to adjust to print on A4 or different paper sizes.	12.5
Optional	leftMargin	1.0	This option adjusts the left margin.	1.5
Optional	rightMargin	1.0	This option adjusts the right margin.	1.5
Optional	topMargin	2.25	This option adjusts the top margin.	3
Optional	bottomMargin	.5	This option adjusts the bottom margin.	1

Sample pasta.cfg File

Below is a sample pasta.cfg file.

Any character after the % character is ignored.

```
% ================ Required Values ============================

% fontpath is either the relative or absolute path to the Unicode
```

```
% font to use

fontpath=F:\pasta\fonts\amu64.ttf

boldfontpath=F:\pasta\fonts\boldamu64.ttf


% ================ Optional Values ============================

%Font size, num is a float number

%fontSize=10

%character encoding

%encoding=JAPANESE.UTF8

%Path to a prologue file to be included before the output

prologue=

%Set tab size to n, where n is number

tabsize=8
%Lines per page

lines=


% ***** Printing options **********

%Print OS specific command

printCommand=lp

%Needed Print command options

printCommandOptions=-c


% ************ Paper Dimension in Inches *************

% Letter paper dimension

% width
```

```
pagewidth=8.27

%height
pageheight=11.64

%  Margins

% left margin

leftMargin=1.0

%right margin

rightMargin=1.0

%top margin

topMargin=2.25

% bottom margin

bottomMargin=0.5



% ************ Bi-Directional languages flags ******************

%layout direction of report.Left-To-Right (ltr) or
%Right-To-Left(rtl)

diretions=ltr

%Do layout or no Use(y) or don't use (n) bold font

dolayout=y

%Do shapping or no Use(y) or don't use (n) bold font

doshapping=y

%Use Arabic digits (arabic), Hindi digits (hindi) or context
%digits (context)

numerals=context
```

Command Line Parameters

When using the PASTA utility from the command line, you can use the options below.

```
FNDPSTX [options]
```

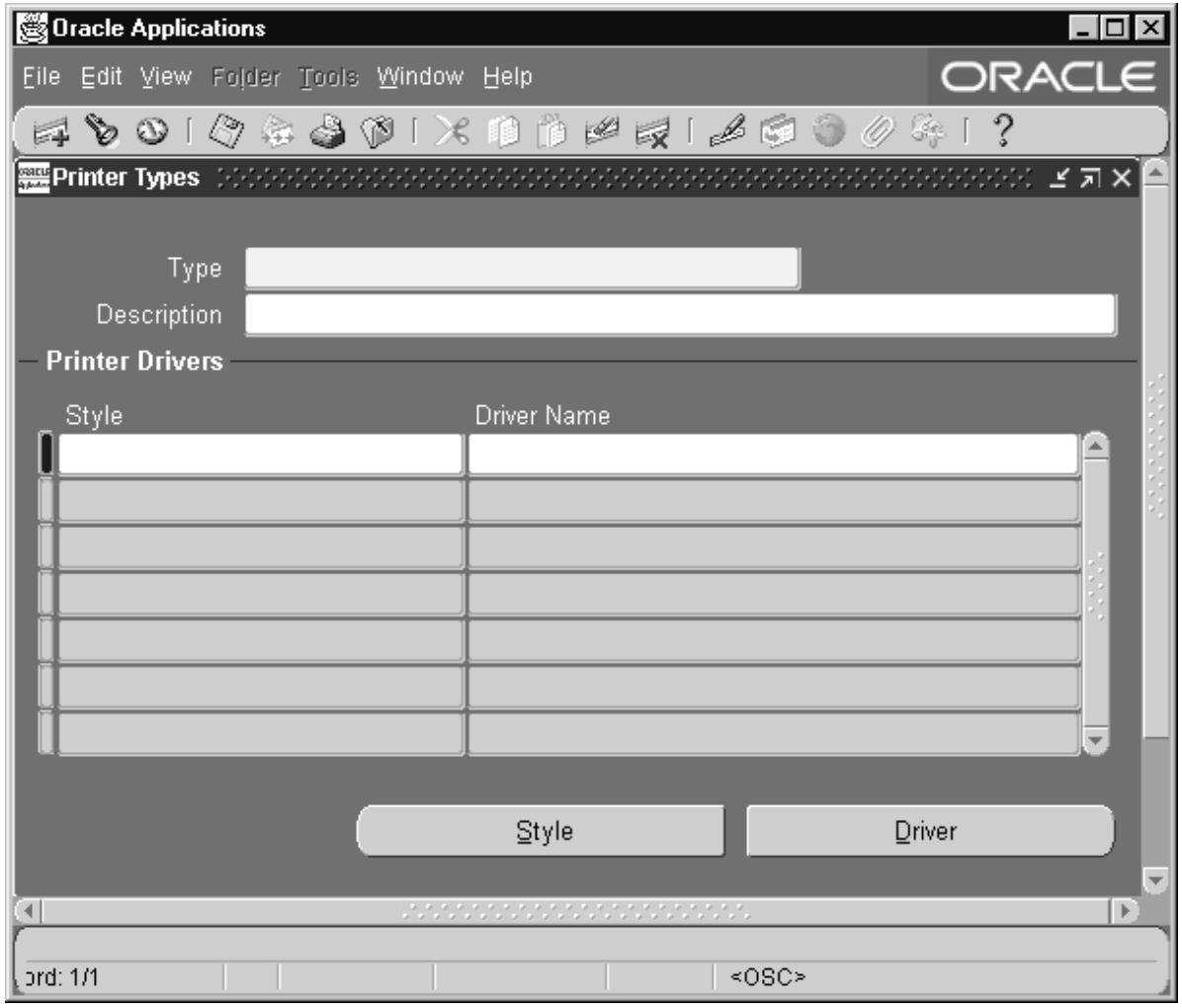
Options:

–f<filename>	<filename> is the name of the file to be printed.
–o<filename>	<filename> is the name of the output file.
–cx	'x' is the number of copies required.
–l	Print in LANDSCAPE mode. (The default is PORTRAIT).
–P<printer>	<printer> is an OS–specific directive and printer name. The printer name should not include a space.
–Cx	'x' is the maximum number of columns that a page will have.

PASTA creates a log file that includes all the error messages that are generated during its run. The file is called "pasta.log" and is located in the current directory.

PASTA generates all the temporary files under `$APPLTMP` in UNIX and `%APPLTMP%` on NT. You may need to delete these files manually. These files have the extension .ps and .tmp.

Printer Types Window



Use this window to define a printer type and to assign print styles and their corresponding printer drivers to the printer type.

Defining printer types allows you to assign print style and printer driver definitions to any number of printers by registering the printers as a specific “type”.

When users choose a printer to send a report to, the available print styles are normally determined by the printer type.

Concurrent programs, however, can be defined to require their report output in a specific print style. For example, some Oracle Reports programs may require a specific print style in order to print correctly.

Attention: You should issue a *Restart concurrent manager* command for all currently active managers whenever you edit an existing Printer Type, Print Style, or Printer Driver.

See: Controlling Concurrent Managers: page 5 – 57

Printer Types Block

Type

Enter a name for a printer type. Example printer types might be "LINE" for a line printer or "LN03" for an LN03 model printer.

You select this printer type when you register a printer using the Printers window.

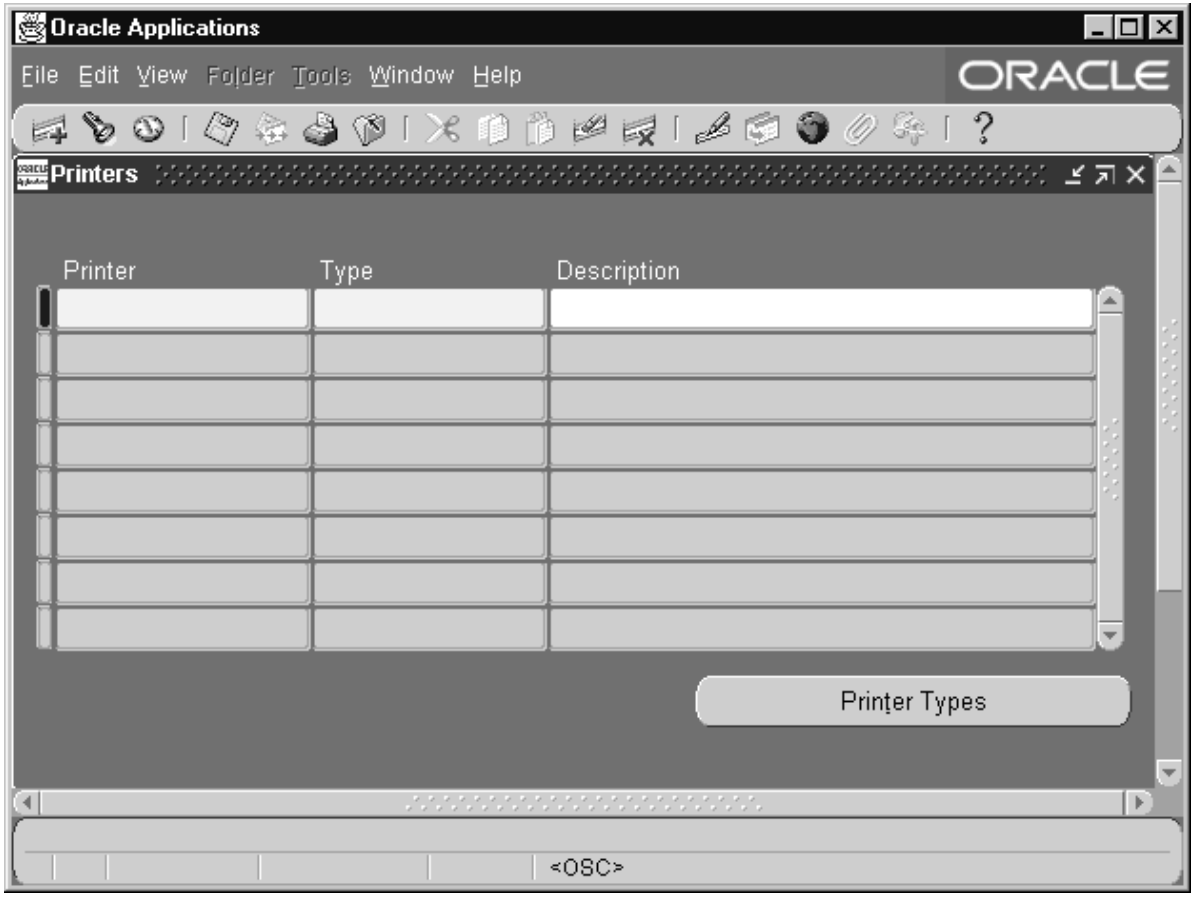
Printer Drivers Block

Use this block to assign print styles and printer drivers to your printer types.

The Style button opens the Printer Styles window.

The Driver button opens the Printer Drivers window.

Printers Window



Register printers with Oracle Applications by entering the operating system's name for the printer and assigning it a printer type (e.g., manufacturer and model).

You:

- Must register a printer before you can print reports from it, using Oracle Applications.
- Can only register a printer with a previously defined printer type. Use the Printer Types window to define printer types.

You can specify the default printer to which a user submits reports by setting the "Printer" user profile option.

Printers Block

Printer

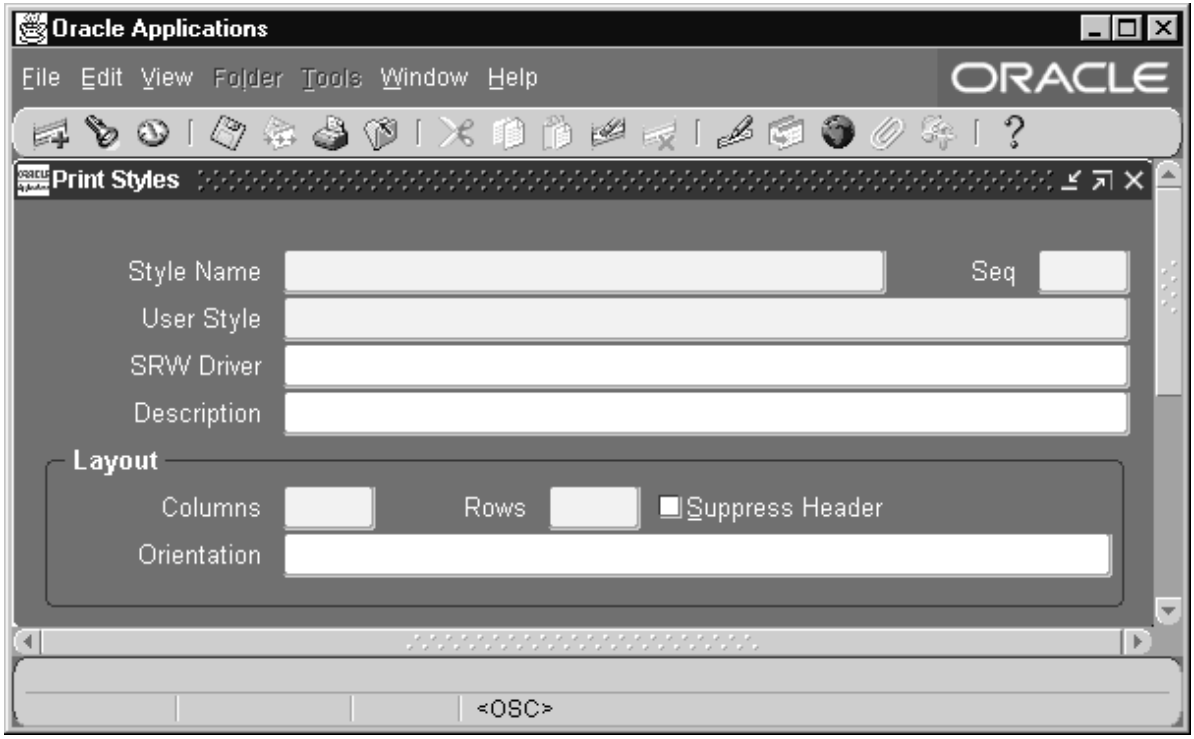
Enter the name your operating system specifies for the printer.

Type

Select your printer type (i.e., manufacturer and model). Some reports require a printer of a specific type in order to print correctly.

You can only select a previously defined printer type. Use the Printer Types button to open a window to define a printer type.

Print Styles Window



Use this window to define print styles. A print style describes how your report should be printed. For example, print style determines the:

- Number of lines per page
- Width of each line
- Page orientation (e.g., portrait or landscape)

Oracle Applications reports are designed to work with standard, shipped print styles. The following print styles are predefined:

- Portrait
- Landscape
- Landwide
- A4
- Dynamic Portrait

Not all reports work with all print styles. You may define additional print styles to customize your reports.

Once defined, a print style cannot be deleted.

Print Styles Block

Define a print style. The combination of Name and User Name uniquely identifies a print style.

Attention: You should issue a *Restart concurrent manager* command for all currently active managers whenever you edit an existing Printer Type, Print Style, or Printer Driver.

See: Controlling Concurrent Managers: page 5 – 57.

Sequence

Enter a number that determines the display sequence for your print style when performing a query in this window. A negative sequence number appears before zero, and zero appears before a positive sequence number.

Name

Multiple print styles display alphabetically in a list window according to their Name (not User Name).

You cannot update a print style's name.

User Name

This user name does not appear anywhere except this window.

Columns

Enter the number of columns your print style defines.

Rows

Enter the number of rows your print style defines.

Suppress Header Flag

Reports may print with a header page that indicates who requested the report and when. Check the Supress Header Flag check box to define a print style that suppresses printing of this header page.

For example, suppressing the header page when printing checks prevents a check from being overwritten and maintains the orderly sequence of check numbers.

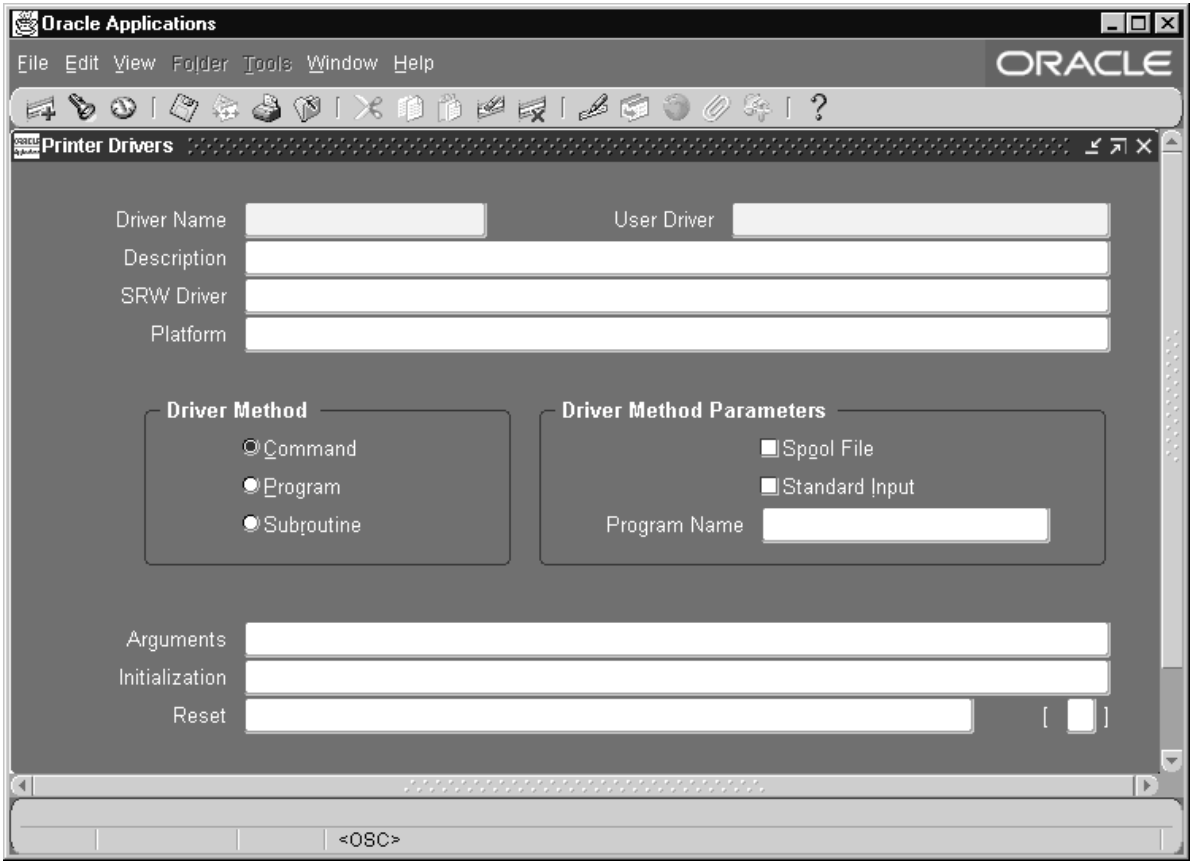
Orientation

Enter the orientation of your printed page, for example, portrait or landscape.

Driver

Enter the name of the Oracle Reports (SRW) driver to be called when printing an applications report generated by Oracle Reports. This field is used only by applications reports generated by Oracle Reports.

Printer Drivers Window



Use this window to define your printer driver and printer commands.

Attention: You should issue a *Restart concurrent manager* command for all currently active managers whenever you edit an existing Printer Type, Print Style, or Printer Driver.

Oracle Applications ships printer drivers for the following print styles:

- Portrait
- Landscape
- Landwide
- A4
- Dynamic Portrait

Printer drivers are supplied for the following printers:

- Apple
- DEC LN03
- HP Laserjet II, HP Laserjet III, HP Laserjet 4
- HP line printer, HP 256X line printer
- EPOCH
- EPSON FX1050 and DMTX1
- QMS PS 825/925

Define additional printer drivers if you have different types of printers, or define additional print styles.

Printer Drivers Block

See: Controlling Concurrent Managers: page 5 – 57.

Name

The printer driver name must be unique for a given platform.

User Name

This user name is referenced by Oracle Applications and must be unique for a given platform.

SRW Driver

Enter the name of the Oracle Reports (SRW) printer driver, if any, that will be invoked by your printer driver. Only Oracle Reports programs require this information.

Enter the entire path to the file, or just the file name. If you enter only the file name, Oracle Applications assumes the file is located in the $FND_TOP/$APPLREP directory.

Platform

Select the platform for which the printer driver is defined. Do not assign platform codes to printer drivers unless you have multiple drivers of the same name. If it cannot find a specific platform code associated with a driver, the concurrent manager will default to the driver with a null platform code.

Driver Method Region Select one of three methods by which your printer driver is invoked.

Command The printer driver executes within an operating system shell. An example is the lpr command in UNIX.

Program The printer driver executes directly as a program, not through an operating system shell.

- An example is a C standalone program for printing.
- This method executes faster than the Command method, but cannot access shell commands like PRINT on MS–DOS.

Subroutine The printer driver executes a predefined Oracle Applications routine.

- An example is the SYS$PRINT routine called on the VMS platform.
- Subroutines are specific to operating platforms and are invoked directly by a system call from the concurrent manager.

Driver Method Parameters Region

Spool File

Select whether the printer driver creates its own copy of a file for printing. If this check box is checked when the Driver Method is set to Program, the print program creates its own spool file.

- An example of spool files is the UNIX lpr command, which creates its own copy of a file if you do not specify the –s option.

Standard Input

Select whether the printer driver accepts standard input. Uncheck this check box when the Driver Method is set to Program. Unless the program accepts standard input, this check box should always be unchecked.

- An example is the UNIX command lpr, which accepts standard input when a filename is not specified.

Program Name

Select the name of a:

- Program the driver invokes if the driver method is Program.
- Subroutine the driver invokes if the driver method is Subroutine.

Arguments Region

Arguments

When the Driver Method is set to Program, enter any generic arguments that must be supplied to the print program.

When the Driver Method is set to Command, enter the full command and its arguments.

Initialization

Enter the initialization string that must be sent to the printer before the printer driver can begin printing.

Reset

Enter the reset string that returns the printer to its ready state when printing is complete

[ ]

The double brackets ([ ]) identify a descriptive flexfield that you can use to add data fields to this form without programming.

This descriptive flexfield allows you to define special commands specific to your printer driver and/or the platform it runs on.

CHAPTER

7

Oracle Applications Help

This chapter explains how to customize Oracle Applications help.

Customizing Oracle Applications Help

Oracle Applications help files are formatted as HTML allowing easy modification using commercial HTML text editors. You can also add customized files of your own to the help system.

If you have licensed Oracle Tutor 11*i*, you can use it to edit your Oracle Applications help files. Oracle Tutor 11*i* additionally provides model business procedures, process documents, and courseware that you can customize to fit your company's specific needs and link to the Oracle Applications help system. For more information, see *Tutor Author User Manual* and *Tutor Publisher User Manual*.

> **Caution:** With each new release of Oracle Applications and each patch you accept, you will need to reapply your changes to any updated help files you have modified, if you want access to the latest information. In addition, Oracle does not provide any mechanism for identifying changes between releases of Oracle Applications help files.

Customizing Oracle Applications Help includes the following topics:

- Downloading and Uploading Help Files (Help System Utility): page 7 – 2
- Linking Help Files: page 7 – 7
- Updating the Search Index: page 7 – 11
- Customizing Help Navigation Trees: page 7 – 12
- Customizing Help in a Global Environment: page 7 – 16

See Also

Profile Options in Oracle Application Object Library: page A – 2

Downloading and Uploading Help Files

Oracle Applications help files are stored in the database. The Oracle Applications Help System Utility is provided for retrieving and replacing them in the course of customization.

Setting Help System Utility Profile Options

Before using the Help System Utility you must define the upload and download directory paths. Oracle Applications provides profile options for you to set these paths.

Use the profile option Help Utility Download Path to define the directory location to which the Help System Utility will download files. Use Help Utility Upload Path to define the directory location from which your customized files will be transferred back into the Oracle Applications Help System.

Identifying Help Files for Customization

Help files are downloaded by file name. To identify the specific file that you want to customize, open the document in the Oracle Applications Help System. Use the view source function of your browser to view the HTML source code. The source information will include the file name.

For example, if you view the source for this help document you will see the file name identified as `SYS00032663.htm`.

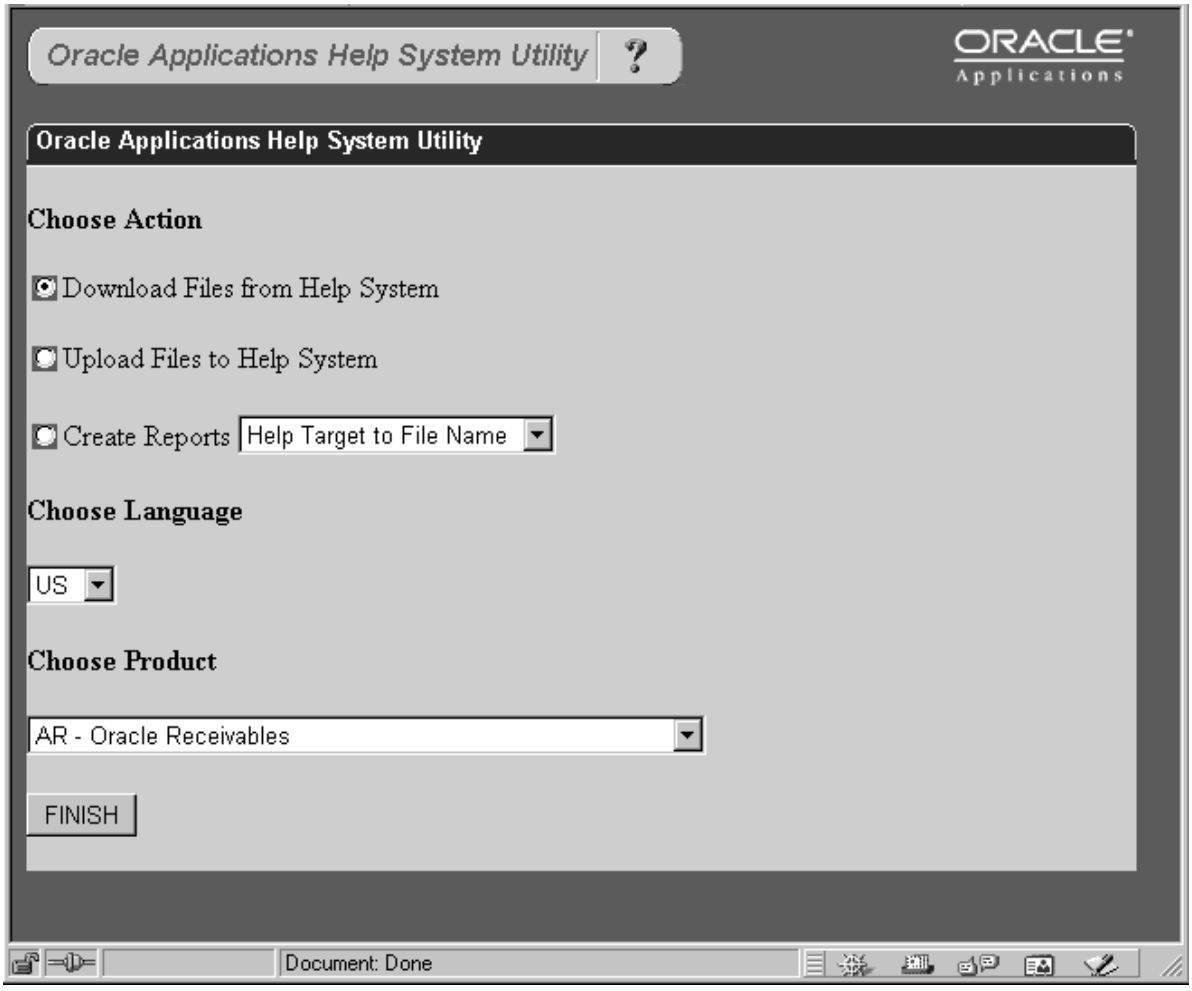
To identify the language and product of the help file, use the source document URL. The final three nodes of the source document URL are the language, the product name, and the anchor or target name.

Using this document again as an example, you will see the final three nodes of the URL are `/US/FND/@ht_updown#ht_updown`. This identifies the language as `US`, the product group as `FND` (Applications Object Library), and the target name as `ht_updown`.

> **Note:** The syntax in the URL, `@ht_updown#ht_updown`, is an example of the Oracle Applications special syntax used to link documents by anchorname. For more information about this syntax see Linking Help Files: page 7 – 7.

The Oracle Applications Help System Utility also provides reports to cross–reference target names and help file names. See Creating Reports: page 7 – 6.

Downloading Help Files for Editing



You download help files by language and by product. That is, you select the language (for example, US for U.S. English) and you select the product (for example, AR Oracle Receivables). It is important to note the two–letter code for the product (in this example, the two–letter code is AR) because the product code determines the download directory.

Follow these steps to download help files:

1. Open the Oracle Applications Help System Utility.

   The Help System Utility is available from Oracle Self–Service Web Applications. Click on System Administration. Under Help Administration, click on Help Utility.

2. Select "Download Files from Help System" from the Choose Action option group.
3. Select the language from the Choose Language pop list.
4. Select the product from the Choose Product pop list. You can only select one product at a time.
5. Click Finish.

The Help System Utility downloads the help files for the product you selected. All files will be downloaded, including graphics. The files are downloaded, following the path defined in the profile option Help Utility Download Path, to a directory for the chosen language and product.

For example, if you selected the language to be US and the product to be AR Accounts Receivable, the files will be downloaded to `<server location>\<Help Utility Download Path>\US\AR`.

Uploading Help Files

Once you have customized the help files, use the Help System Utility to upload the documents into the help system. Your files are uploaded from the upload directory specified in the profile option Help Utility Upload Path.

> **Note:** If you have created a new application with new help files that you are uploading for the first time, you must use the Generic File Manager Access Utility (FNDGFU) to upload these files. See Generic File Manager Access Utility: page C – 38.

There are four types of files that can be uploaded to the help system. These are:

- HTML files (all HTML files must have a `.htm` extension)
- GIF graphics files (must have a `.gif` extension)
- Adobe® Acrobat files (must have a `.pdf` extension)
- Cascading Style Sheets (must have a `.css` extension)

Follow these steps to upload your customized help files:

1. Copy the customized files to the appropriate product folder in the upload directory.

   For example, if you customized six help files for Accounts Receivable, copy the six files to the `<server location>\<Help Utility Upload Path>\US\AR` directory. It is critical that you copy the files to the correct product folder in order for the Oracle Applications Help

System Utility to place the files in the correct location within the Oracle Applications Help System.

2. Open the Oracle Applications Help System Utility.

   The Help System Utility is available from Oracle Self–Service Web Applications. Click on System Administration. Under Help Administration, click on Help Utility.

3. Select "Upload Files from Help System" from the Choose Action option group.
4. Select the language from the Choose Language pop list.
5. Select the product from the Choose Product pop list. You can only select one product at a time.
6. Click Finish.

The Help Utility uploads the help files for the product you selected. All files located in the directory for the selected language and product will be uploaded.

Creating Reports

The Help System Utility provides two reports for you to cross–reference help targets and file names.

Help Target to File Name Report This report lists by target, each file that contains the target, the document title of the file, and the product.

File Name to Help Target Report This report lists every file name and document title by language and product and all the targets found within each file.

Follow these steps to run these reports:

1. Open the Oracle Applications Help System Utility.

   The Help System Utility is available from Oracle Self–Service Web Applications. Click on System Administration. Under Help Administration, click on Help Utility.

2. Select "Create Reports" from the Choose Action option group.
3. Select the appropriate report from the Create Reports pop list.
4. Select the language from the Choose Language pop list.
5. Select the product from the Choose Product pop list. You can build reports for all products by selecting "All Products" from the list.
6. Click Finish.

Linking Help Files

The Oracle Applications help system supports a special syntax for hypertext links that keeps them working even when files are renamed or split into parts. The special syntax, which is explained in detail below, looks like this:

```
For more about widgets, see
<A HREF="@widgets#widgets">All About
Widgets</A>.
```

Oracle Applications help files use this syntax, and you can use it too in your custom help files. Or if you prefer, you can always use conventional hypertext links based on filename.

Linking Help Files includes the following topics:

- Special Link Syntax: page 7 – 7
- Cross–Application Links: page 7 – 8
- Related–Topics Links: page 7 – 9
- Context–Sensitive Help: page 7 – 10

Special Link Syntax

Links in Oracle Applications help files point, not at a particular filename, but rather at one of the named anchors contained in the file. The Oracle Applications help system resolves anchorname to file dynamically, every time a link is negotiated.

Information on which files contain which anchornames is put into the help system automatically on upload. Authors must ensure that anchornames are unique across an application's help files to prevent duplicate links. In return, they need never worry about a change in filename breaking their links.

Named Anchors in Conventional HTML

By **named anchor** is meant the following kind of HTML tag:

```
<A NAME="anchorname"></A>
```

Named anchors can be placed anywhere in the body of an HTML file, and are typically used for links internal to the file in question. A pound sign (#) is placed before the anchorname in the link that points at it.

For example, you would use HTML like the following to allow users to jump forward to a section with the anchorname of "widgets":

```
For more about widgets, see
<A HREF="#widgets">All About Widgets</A>
below.
```

```
    .     .     .
<A NAME="widgets"></A>
<H2>All About Widgets</H2>
```

Extended to Support Interdocument Links

Oracle Applications help files extend this conventional HTML syntax to create links not only within, but also **between** help files. To link to a file that contains a particular named anchor, you simply place an at sign (@) before the anchorname. To link to the precise spot within the file where this anchor appears, you append a pound sign followed by the anchorname, just as you would in conventional HTML. This results in the following special syntax:

```
<A HREF="@anchorname#anchorname">link text</A>.
```

For example, to link to the file that contains the "widgets" anchor illustrated above, at the point in the file that this anchor occurs, you would use HTML like the following:

```
For more about widgets, see
<A HREF="@widgets#widgets">All About
Widgets</A>.
```

If you simply want to link to the top of the file that contains this anchor, you can omit the pound–sign segment "#widgets."

Links in Oracle Applications help files rarely omit the pound–sign segment. This means that however topics are rearranged within or among files, links to these topics from other files always go to the proper file, and to the precise spot within the file where the topic occurs.

> **Caution:** Do not use case to make distinctions between anchornames. Unlike most web browsers, the Oracle Applications help system treats anchornames in a case–insensitive fashion.

Cross–Application Links

In the Oracle Applications help system, all help files associated with a particular application exist in the same directory, as far as their URL is concerned. Help files associated with other applications exist in directories named after the application's short name. All these application directories are at the same level in the help system.

To create a link that goes to a help file associated with a different application, you create a relative link that goes up a level to the parent

of all help application directories, and then back down through the other application's directory, before concluding with Oracle Applications' special link syntax. This results in the following cross–application link syntax:

```
<A HREF="../shortname/@anchorname#anchorname">
link text</A>
```

For example, if the "All About Widgets" topic illustrated above were an Oracle Payables help topic, and you wanted to link to it from an Oracle General Ledger help file, you would use a link like the following, where AP is Oracle Payables' short name:

```
For more about widgets in Oracle Payables, see
<A HREF="../AP/@widgets#widgets">All About
Widgets</A>.
```

When used in this fashion, application short names are case insensitive.

> **Note:** These application help directories are merely "virtual" directories recognized by the Oracle Applications help system when used in URLs. All files are actually stored in the database, with application short name being one attribute among many associated with them.
>
> **Note:** Oracle Payables' official short name is SQLAP. This has been shortened to AP for the virtual directory used in the Oracle Applications help system. Similarly, Oracle General Ledger's official short name of SQLGL has been shortened to GL, and Oracle Assets short name of OFA has been shortened to FA. These are the only exceptions.

Related Topics Links

Links are not limited to a single target in the Oracle Applications help system. You can point your links at multiple topics and files by using the following syntax:

```
<A HREF =
"@anchorname1,anchorname2,anchorname3">
Related Topics</A>
```

When a user negotiates the link, a page headed "Related Topics" appears, containing a list of the page titles corresponding to these anchornames, with each title linked to the file in question.

To include cross–application links, simply prefix the application short name and a colon to the anchorname:

```
<A HREF =
"@anchorname1,shortname:anchorname2,anchorname3">
Related Topics</A>
```

Context–Sensitive Help

When you ask for help in Oracle Applications, the topic for your current window opens. If you ask for help from a report parameters window, your help file opens to a discussion of that report.

Oracle Applications help files contain special anchornames to enable these context–sensitive links. When calling help from a window, Oracle Applications looks for an anchorname based on the form name and the window name combined as follows:

```
<A NAME="form_name_window_name"></A>
```

You can override the form_name portion of the anchorname by specifying a HELP_TARGET parameter in the parameter field of the Form Functions window. Use the syntax HELP_TARGET = "alternative_form_name". See: Form Functions: page 2 – 32.

When calling help from a report parameter window, Oracle Applications looks for an anchorname constructed as follows:

```
<A NAME="SRS_concurrent_program_shortname"></A>
```

Updating the Search Index

Oracle interMedia Text enables the search feature provided by the Oracle Applications help system. You run a script called aflobbld.sql to rebuild the search index after uploading customized documents. This ensures that they will be included in any searches your users perform.

To rebuild the interMedia index, use the following command line:

```
sqlplus <apps/pwd> @$FND_TOP/sql/aflobbld.sql
```

where

<apps/pwd> is the APPS schema username / password. To specify a particular database, append an @ sign and the database SID (@database).

Example `sqlplus apps/apps@devdb @$FND_TOP/sql/aflobbld.sql`

- connects to apps / apps@devdb using Oracle SQL*PLUS
- rebuilds the search index for Oracle Applications help

Customizing Help Navigation Trees

You use the Help Builder applet to customize the help navigation trees that appear in your browser window's navigation frame when help is invoked.

Trees are composed of root, branch, and leaf nodes. The **root** of a help navigation tree is the top–most level. When expanded, it reveals a collection of first–level branches and leaves under it. A **branch** expands further, to reveal branches and leaves the next level down. In the Oracle Applications help system, some branches also link to overview documents. A **leaf** expands no further, but simply links to a document, terminating the hierarchy at this point.

> **Caution:** With each new release of Oracle Applications and each patch you accept, you will need to reapply your changes to any updated help navigation trees you have modified, if you want access to the latest information. In addition, Oracle does not provide any mechanism for identifying changes between releases of Oracle Applications help navigation trees.

You can use the Help Builder to perform the following tasks:

- open a tree for editing: page 7 – 12
- add new help files to a tree: page 7 – 13
- add new nodes to a tree: page 7 – 13
- add nodes from another tree to a tree: page 7 – 13
- change the organization of a tree: page 7 – 13
- create a new navigation tree: page 7 – 14

For help understanding the information associated with each of the Help Builder's fields, see Help Builder Window Reference: page 7 – 14.

Accessing the Help Builder

To access the Help Builder, navigate from Oracle Self–Service Web Applications as follows: **System Administration – Help Builder**.

Help Builder Tasks

▶ **To open a tree for editing:**

1. Enter information on the tree in the **Find Trees** window, and click **Find**.

   For example, enter `%Payables%` in the **Prompt** field to find the Oracle Payables tree.

2. Double–click the line in the **Trees** tab of the main Help Builder window that most closely corresponds to the tree in question.

   The tree's top–level node appears in the left pane. Expand and contract nodes to display the part of the tree you want to edit.

▶ **To add new help files to a tree:**

1. Upload the help files to the database: page 7 – 2.
2. Open the tree for editing: page 7 – 12.
3. Click **Find Documents** on the toolbar.

   The **Find Documents** window appears.
4. Enter information on the files you want to add, select **Exclude documents already on a tree**, and click **Find**.

   Files corresponding to the information you enter appear on the **Documents** tab of the main Help Builder window.
5. Drag files from the **Documents** tab and drop them on the tree.

   Note: Files containing named anchors appear multiple times: once with the filename, and once with each anchorname listed as the **Target**. Be sure to choose the anchorname that corresponds to the topic you want to add.

▶ **To add new nodes to a tree:**

1. Open the tree for editing: page 7 – 12.
2. Select the node above the place where you want to add a new node, and click **New Node** on the toolbar.
3. Enter information for the new node, and click **Apply**.

▶ **To add nodes from another tree to a tree:**

1. Open the tree for editing: page 7 – 12.
2. Enter information on the nodes you want to add in the **Find Trees** or **Find Documents** window, and click **Find**.

   Nodes corresponding to the information you enter appear on the **Documents** or **Trees** tab of the main Help Builder window.
3. Drag nodes from the **Documents** or **Trees** tab and drop them on the tree.

▶ **To change the organization of a tree:**

Caution: Changes made to nodes added from another tree are reflected in the original tree and all other trees that include them.

1. Open the tree for editing: page 7 – 12.
2. To move a node, drag the node from its current location and drop it at its new location in the tree.
3. To delete a node, select it and click **Delete** on the toolbar.
4. To change a prompt, select the node, enter the new prompt in the **Prompt** field of the **Properties** pane, and click **Apply**.

   Other node properties can be changed in a similar fashion.

   Note: If the same node appears elsewhere in the tree, your changes will not appear there until you click the **Reload** button on the toolbar. For one node to be the same as another, the Node Key and Node Application of their parent nodes must be the same, as well as all their own properties. Their grandparent nodes and above can be different.

▶ **To create a new navigation tree:**

1. Choose **File** –> **New**.

   The **Root Node Properties** window appears.
2. Enter information for the tree's root node, and click **Apply**.
3. Add new nodes to the tree: page 7 – 13.
4. Add new help files to the tree: page 7 – 13.
5. Add nodes from other trees to the tree: page 7 – 13.
6. To view the new tree with context–sensitive help, enter its root as the Help Tree Root for some application, responsibility, or user: page A – 26.

   To view it stand alone, substitute its root in the `root=` parameter at the end of your site's Oracle Applications Help URL. Include the application short name. For example, for a root named ROOT_INV belonging to the Oracle Inventory product, you would use `root=INV:ROOT_INV` in the URL.

Help Builder Window Reference

Field names and descriptions for the Help Builder window are given below.

Application Application shortname of application that owns the help file.

Custom Level Customization level of the node. 100 is the default for customer use. Levels under 100 are reserved for system use.

Data	If the node links to a help file, the relative URL of the help file.
Description	Longer description of the node, if the **Prompt** is terse. Otherwise may simply repeat the **Prompt**.
Filename	Pre–upload filename of the help file.
Icon	Not used.
Language	Language code of help files covered by the node.
Node Application	Application shortname of the application that owns this node. If different from the value given for the ROOT, this node and all the nodes it branches into have been grafted into the tree from another application.
Node Key	String that uniquely identifies the node in this **Node Application**. The node key can be generated automatically or typed into the field (for a new node). However, once references to the node exist, the node key cannot be changed.
Prompt	The text that appears on the tree for this node.
Target	Anchorname contained in the help file. Do not precede with an @ sign in the **Find Documents** window.
Title	Title of the help file.
Type	ROOT: Top–most node of a navigation tree. NODE: Node that branches into other nodes, but is not the ROOT; a garden variety node. If **Data** is not null, it links to a help file as well. DOCUMENT: Node that does not branch into other nodes, but simply links to a help file.
Version	Version identifier of the help file.

Customizing Help in a Global Environment

The Oracle Applications help system contains files translated into many different languages, and localized for diverse countries and regions. If your enterprise crosses linguistic and cultural boundaries, or if you use Oracle Human Resources, the following information may apply when customizing your help files.

Customizing Help in a Global Environment includes the following topics:

- Linking Between Different Languages: page 7 – 16
- Linking Localized Help Files: page 7 – 16
- Localizing Context–Sensitive Help: page 7 – 18

Linking Between Different Languages

One level up the virtual directory hierarchy used in Oracle Applications help URLs are the application directories used to construct cross–application links. Two levels up are the language directories, which you can use to construct cross–language links.

To create a link that goes to a help file in a different language, use the following link syntax:

```
<A HREF =
"../../language_code/shortname/@anchorname#anchorname">
link text</A>
```

For example, to link to "All About Widgets" in the French version of Oracle Payables help, you would use the following link, where AP is Oracle Payables' short name and F is the French language code:

```
For more about French widgets, see
<A HREF="../../F/AP/@widgets#widgets">Qu'est-ce
qu'un widget?</A>.
```

When used in this fashion, language codes are case insensitive.

> **Note:** After following a link to a different language, users stay in that language until they follow a link back out to their original language. This can be either a link they encounter within a help file, or a link from the navigation tree, which remains in their original language throughout.

Linking Localized Help Files

You can add an optional localization code at the end of your anchornames to distinguish files that cover the same topic, but in terms

appropriate to different countries or regions. Localization codes are not validated, and can be any string under 100 characters in length.

Localized anchors use the following syntax:

```
<A NAME="anchorname@localization_code"></A>
```

Links to localized anchors, on the other hand, are constructed just like regular Oracle Applications help links, provided you want users to stay within their current localization:

```
<A HREF = "@anchorname#anchorname">link within
current localization</A>
```

To take them to a different localization, use the following syntax:

```
<A HREF =
"../../language_code@localization_code/shortname/@anchorname
#anchorname">link to a specified localization</A>
```

Note that for links, the localization code modifies the language portion of the file's relative URL, instead of its anchorname, which remains unchanged.

If no file with the localized anchor exists in the help system, the file containing the non–localized anchor is displayed when localized links are traversed. This allows localized files to coexist with generic files in a multi–local help environment.

> **Caution:** If a file with the localized anchor exists *in another language*, then that file is displayed if the localized anchor can't be found in the current language. To prevent this from occurring, use distinct localization codes for each language.

Example If widgets in the UK region are different from widgets in the rest of the world, you can use the following anchor to identify the UK–specific file in the help system:

```
<A NAME="widgets@UK"></A>
```

To link to this file from outside the UK localization, you use the following syntax:

```
For more about widgets in the UK, see
<A HREF="../../US@UK/AP/@widgets#widgets">Sticky
Widgets</A>.
```

If at some point widgets in the UK stop being different from widgets abroad, and the file containing the UK–localized anchor is eliminated from the help system, this link simply starts going to the generic widgets help file, without breaking.

Localizing Context–Sensitive Help

Set the HELP_LOCALIZATION_CODE profile option at the appropriate level to enable context–sensitive calls to localized help files. For more information, see Help Localization Code: page A – 26.

Localized anchornames for context–sensitive help are of the following form:

```
<A NAME =
"form_name_window_name@localization_code"></A>
```

CHAPTER

8

Applications DBA Duties

This chapter explains Oracle Applications security tasks that require a database administrator to either explicitly perform, or assist by performing prerequisite tasks.

Depending on the nature of the company and the installation site, these duties may sometimes belong to the System Administrator. As such, this “borderline” area of tasks, which encompasses forms from various locations on the System Administrator menu tree, is referred to as Applications DBA duties.

Overview of Applications DBA Duties

Applications database administration (DBA) combines the efforts of an Oracle Applications System Administrator and an ORACLE database administrator.

ORACLE Usernames

The database privileges of Oracle Applications products depend on their ORACLE usernames. ORACLE usernames are created by an ORACLE database administrator, and then are registered as ORACLE usernames by a System Administrator.

An ORACLE username identifies you as an authorized ORACLE database user.

- Each ORACLE username consists of a database username and password assigned by your database administrator.
- Each ORACLE username accesses a set of data within the ORACLE database.
- Usually each Oracle application has its own ORACLE username, in which application–specific data resides. That is, the tables and other database objects owned by the application are accessed by the ORACLE username.

Note that database usernames and passwords connect to the ORACLE database, while application usernames and passwords access Oracle Applications.

You access the ORACLE database through an Oracle Applications product, and the application's ORACLE username is what grants access privileges.

Registering an ORACLE username

The installation process automatically registers Oracle Applications ORACLE usernames, so you only need to register any additional ORACLE usernames that you need using the ORACLE Users window.

You must register an ORACLE username with Oracle Applications if:

- you create a custom application using Oracle Application Object Library
- you want to associate an additional ORACLE username with an Oracle Applications product

Attention: Before you can register an ORACLE username, your database administrator must first create an ORACLE username that connects to the ORACLE database. You then use the ORACLE Users window to register your ORACLE username.

Registering a new ORACLE username using the ORACLE Users window submits a concurrent request that sets up the necessary privileges to the Oracle Application Object Library database tables you need to run your application. These database tables contain information to allow your users access to Oracle Application Object Library features, such as menus and flexfields.

Reregistering ORACLE usernames

You should also reregister ORACLE usernames associated with custom applications built using Oracle Application Object Library each time you upgrade Oracle Application Object Library

When you change the privileges that an already registered ORACLE username has to the Oracle Application Object Library database tables:

- Oracle Applications then submits a concurrent request to create or recreate privileges to the Oracle Application Object Library database tables.
- The concurrent request must complete successfully in order for your changes to take effect.

Registering an ORACLE username as "Restricted"

Oracle Applications let you register ORACLE usernames as *Restricted* ORACLE usernames. A restricted ORACLE username prevents users from modifying data in Oracle Application Object Library tables.

Your database administrator can set up the ORACLE username to prevent users from modifying data in other Oracle Applications tables.

You can register an ORACLE username as restricted using the ORACLE Users window.

- When you register an ORACLE username as restricted, you submit a concurrent request that sets up read–only privileges to the Oracle Application Object Library database tables.
- Users with responsibilities that access restricted ORACLE usernames have read–only privileges to the Oracle Application Object Library database tables, which prevents them from inserting, updating, or deleting data related to such Oracle Application Object Library features as menus, flexfields, and so on.

Defining Data Groups

A data group assigns an ORACLE username to an Oracle Applications product, and includes a list of the valid Application–ORACLE username pairs.

The installation process automatically defines Data Groups for Oracle Applications, so you only need to define any additional data groups that you wish to utilize. See: Defining Data Groups: page 4 – 30. See: Data Groups: page 4 – 81.

Conflict Domains

A conflict domain is a set of related data stored in one or more ORACLE usernames and linked by grants and synonyms. Do not confuse logical databases with your ORACLE database. The ORACLE database contains all your Oracle Applications data, with each application's data usually residing in one ORACLE username. You can think of a logical database as a line drawn around a set of related data for which you wish to define concurrent program incompatibilities. In other words, logical databases determine which concurrent programs cannot run at the same time.

Logical Databases and Program Incompatibilities

When an ORACLE username is identified as belonging to a logical database, concurrent program incompatibility rules are enforced when concurrent programs connect to the ORACLE username.

By checking for incompatibilities between programs running concurrently, accessing the same data, Oracle Applications ensures that data retrieved by one program is not incorrect or adversely affected when retrieved by another program.

Example – Program Incompatibilities

An example of a concurrent program that is incompatible with other concurrent programs is Oracle General Ledger's Posting program, used to post journal entries.

If the Posting program's incompatibility with other Oracle Applications concurrent programs were not enforced, other financial reports running simultaneously with the Posting program could contain incorrect account balance information. Logical databases ensure that this does not happen.

Defining Logical Databases

The installation process automatically defines logical databases and assigns ORACLE usernames to them.

A *Standard* logical database can be assigned to every Oracle Applications product so that every concurrent program, if incompatible with any other program, does not run concurrently with that program, regardless of which ORACLE username those two programs connect to. Assigning every ORACLE username to the same (e.g., Standard) logical database is a fail–safe method of enforcing program incompatibility rules.

You must define new logical databases only if you build a custom application whose data do not interact with data found in existing logical databases.

As a general rule, you should define a logical database for each custom application, and assign that application's ORACLE username(s) to the corresponding logical database.

However, if a custom application's data interacts with another application's data, you should assign the two applications' ORACLE usernames to the same logical database.

Initialization Code

You can now add in custom initialization SQL code to be executed at database session startup. You specify this code using a profile option.

Oracle Applications products may also have application–specific initialization code specified.

The code is executed by FND_GLOBAL.INITIALIZE and APPS_INITIALIZE immediately after initializing global variables, profiles, and the contents of client_info on session startup.

The order of execution is:

- FND_GLOBAL values initialized
- Profiles initialized
- CLIENT_INFO contents initialized
- FND_APPS_INIT_SQL initialization code called (if a value is defined)
- FND_INIT_SQL initialization code called (if a value is defined)

Profile Option Initialization SQL Statement – Custom

Using the profile option Initialization SQL Statement – Custom, you can add site–specific initialization code, such as optimizer settings. This profile value must be a valid SQL statement, or a PL/SQL block for more than one statement, that is to be executed once at the startup of every database session.

This profile option can be set at any level by the System Administrator, and is reserved for use by customers.

Profile Option Initialization SQL Statement – Oracle

This profile option is used by Oracle Applications to add application–specific initialization code. This profile option is set at the application level only, and will only be executed for responsibilities owned by that application. This profile option and its value settings are delivered as seed data, and must not be modified.

Resource Consumer Groups in Oracle Applications

The Database Resource Manager in Oracle8*i* is used to allocate and manage resources among database users and applications.

Resource consumer groups and resource plans provide a method for specifying how to partition processing resources among different users. A resource consumer group defines a set of users who have similar resource usage requirements. An overall resource plan specifies how resources are distributed among the different resource consumer groups.

Oracle Applications allows the system administrator to assign individual Oracle Applications users to resource consumer groups. In addition, concurrent programs and concurrent managers can be assigned to resource consumer groups.

> **Note:** These resource consumer groups apply to CPU resources only.

For additional information, see *Oracle8i Concepts* and *Oracle8i Administrator's Guide*.

Assigning Resource Consumer Groups

The system administrator can assign a user to a resource consumer group by setting the value of the user profile option FND:Resource Consumer Group for that particular user. The user can see this profile option but cannot update it. See: User Profiles: page A – 24 .

The system administrator can assign a concurrent program to a resource consumer group in the Parameters window of the Define Concurrent Program form. See: Concurrent Programs Parameters Window: page 4 – 76 .

The system administrator can assign a concurrent manager to a resource consumer group in the Define Concurrent Manager form. See: Concurrent Managers Window: page 5 – 92.

Hierarchy of Resource Consumer Group Assignments

Conflicts can arise between the resource consumer groups associated with a single session. For example, a concurrent manager assigned to one resource consumer group may run a concurrent program assigned to another. A similar situation arises when a user performs a

transaction managed by a transaction manager that has a different resource consumer group than the user. To resolve such conflicts, Oracle Applications uses a hierarchy.

In the case of a concurrent program, the system first checks to see if the program has an assigned resource consumer group and if so, uses that. If not, the system checks the concurrent manager running the program and uses its resource consumer group. If the concurrent manager is not assigned to a resource consumer group the system uses the default group "Default_Consumer_Group".

In the case of a transaction manager running a transaction program, the system once again checks the resource consumer group assigned to the program, if any, and if there is none, checks the transaction manager. If the transaction manager has no assigned resource consumer group the system then checks the profile option value for the user whose session began the transaction. If there is no resource consumer group defined the system uses the default resource consumer group.

For a user running a form, the system first checks the profile option value for that user and uses that if it is defined. Otherwise the system uses the default resource consumer group.

Oracle Applications Schema Password Change Utility

Changing passwords frequently helps ensure database security. Oracle Applications provides a command line utility, FNDCPASS, to set Oracle Applications schema passwords. This utility re–encrypts passwords in FND_ORACLE_USERID and FND_USER with the new schema password, then actually changes the password in the database.

For more information on changing passwords, see *Maintaining Oracle Applications.*

Attention: Before changing any passwords, you should make a backup of the applicable tables that will be modified.

Attention: Ensure that all concurrent managers have been shut down before changing the APPS password.

Usage

To change the applsys password:

```
FNDCPASS <logon> 0 Y <system/password> SYSTEM
<username> <new_password>
```

Use the above command with the following arguments. When specifying the SYSTEM token, FNDCPASS expects the next arguments to be the applsys username and the new password.

logon	The ORACLE username/password.
system/password	The username and password for the SYSTEM DBA account.
username	The applsys username. For example, 'applsys'.
new_password	The new password.

This command does the following:

1. Validates applsys.
2. Re–encrypts all passwords in the FND_USER table.
3. Re–encrypts all passwords in the FND_ORACLE_USERID table.
4. Updates applsys's password in the FND_ORACLE_USERID table.

   Because everything with a read_only_flag in the FND_ORACLE_USERID table must always have the same password, FNDCPASS updates these passwords as well as

applsys's password. For example, the apps's password will be updated when the applsys password is changed.

5. ALTER USER is executed to change the oracle password for the above Oracle users.

For example, the following command changes the applsys password to 'WELCOME'.

```
FNDCPASS apps/apps 0 Y system/manager SYSTEM APPLSYS
WELCOME
```

To change an Oracle user's password:

```
FNDCPASS <logon> 0 Y <system/password> ORACLE
<username> <new_password>
```

Use the above command with the following arguments. When specifying the ORACLE token, FNDCPASS expects the next arguments to be an ORACLE username and the new password.

logon The ORACLE username/password.

system/password The username and password for the SYSTEM DBA account.

username The ORACLE username. For example, 'GL'.

new_password The new password.

For example, using FNDCPASS to change the GL password would result in the following:

1. FNDCPASS updates GL's password in FND_ORACLE_USERID table. The new password is re–encrypted with the current applsys password. If the user GL does not exist, step (2) below does not occur, and a message for invalid oracle user is written in a log file.
2. ALTER USER to change GL's password is executed.

For example, the following command changes the GL user password to 'GL1'.

```
FNDCPASS apps/apps 0 Y system/manager ORACLE GL GL1
```

To change an Oracle Applications user's password:

```
FNDCPASS <logon> 0 Y <system/password> USER
<username> <new_password>
```

Use the above command with the following arguments. When specifying the USER token, FNDCPASS expects the next arguments to be an Oracle Applications username and the new password.

logon The ORACLE username / password.

system/password The username and password for the SYSTEM DBA account.

username The Oracle Applications username. For example, 'VISION'.

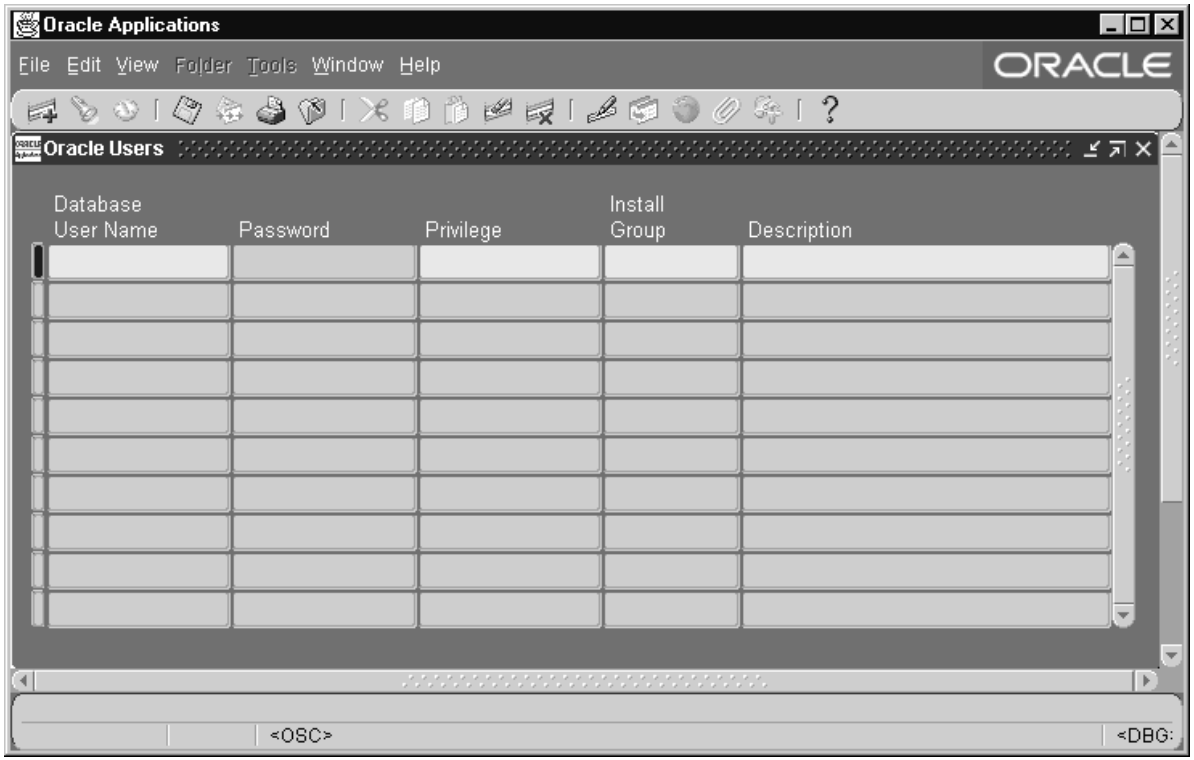
new_password The new password.

For example, if you were changing the password for the user VISION to 'WELCOME', you would use the following command:

```
FNDCPASS apps/apps 0 Y system/manager USER VISION
WELCOME
```

FNDCPASS would update VISION's password in the FND_USER table. The new password is re–encrypted with the current applsys password. If the user VISION does not exist, a message for invalid application user is written in the log file.

ORACLE Users Window



Register an ORACLE username with Oracle Applications. An ORACLE username grants access privileges to the ORACLE database.

The installation process always registers your ORACLE username, so you need not register it unless you create a custom application using Oracle Application Object Library, or if you wish to associate an additional ORACLE username with Oracle Applications.

If you register an ORACLE username as a “restricted” ORACLE username, you submit a concurrent request to set up read–only privileges to the Oracle Application Object Library tables. An “enabled” ORACLE username has all privileges to those tables. A “disabled” ORACLE username has no privileges to those tables.

If you do not register and enable your ORACLE username or if you disable a registered ORACLE username, your user cannot use Oracle Application Object Library features such as menus and flexfields.

You should not change the registration of any ORACLE usernames that the installation process registers, other than changing the passwords.

If you are registering a change to an existing ORACLE password, make the password change in the database immediately AFTER you register the password change in Oracle Applications. Until you register the password changes in Oracle Applications and implement them in the database, responsibilities using this ORACLE username cannot connect to the database.

Your password must follow the guidelines for creating passwords discussed in the Oracle 8*i* documentation. Remember that if you use non–character values in your password, you may need to use quotation marks around your password when changing it in the database.

Warning: If you are changing the password to the *applsys* ORACLE username, which contains the Oracle Application Object Library tables, you must *not* change the passwords to any other ORACLE usernames at the same time.

As soon as you change and save the password, you should immediately log out of the Oracle Applications, make the *applsys* password change in the database, and then sign on again before you do anything else. You should also ensure that no other users are logged on to the Oracle Applications while you are changing the *applsys* password.

Passwords for the APPS Accounts

The *applsys* password must be identical to the password for the APPS accounts (APPS, APPS2, APPS3). The uniform passwords enable the different sets of books to operate correctly.

Prerequisites

- Create an ORACLE username that matches your application needs (this function is usually performed by a database administrator). The ORACLE username must include the *create session* privilege.
- Or, coordinate any change you intend to make to an existing ORACLE username password. You should register the password change in Oracle Applications and change the password in the database immediately afterwards.

Attention: Until you have both registered the changes in Oracle Applications and then implemented them in the database, responsibilities using your ORACLE username cannot connect to the database.

Password

Enter the password of your ORACLE username. Your password is not displayed. If you are registering a change to an existing ORACLE password, make the password change in the database immediately AFTER you register the password change in Oracle Applications.

Until you register the password changes in Oracle Applications and implement them in the database, responsibilities using this ORACLE username cannot connect to the database.

Warning: If you are changing the password to the *applsys* ORACLE username, which contains the Oracle Application Object Library tables), you must *not* change the passwords to any other ORACLE usernames at the same time.

As soon as you change and save the password, you should immediately log out of the Oracle Applications, make the *applsys* password change in the database, and then sign on again before you do anything else. You should also ensure that no other users are logged on to the Oracle Applications while you are changing the *applsys* password.

Privilege

Enter the type of privilege to the Oracle Application Object Library database tables that you want this ORACLE username to have. The Oracle Application Object Library tables contain information for Oracle Application Object Library features such as menus, help text, and flexfields. If you do not have access to these tables, you cannot use these features.

The default value for this field is Enabled.

Enabled An enabled ORACLE username has full privileges (insert, query, update, and delete) to the Oracle Application Object Library database tables.

Restricted A restricted ORACLE username has only query privileges to the Oracle Application Object Library database tables. This ORACLE username can view Oracle Application Object Library data, but cannot insert, update, or delete information.

Disabled A disabled ORACLE username has no privileges to the Oracle Application Object Library database tables. This ORACLE username cannot insert,

query, update, or delete Oracle Application Object Library information and cannot use Oracle Application Object Library features.

Two additional privilege types appear, associated with ORACLE usernames configured at installation. However, these privilege types cannot be selected from your list of values.

Public The installation process registered an ORACLE username with the Public privilege, allowing all users to access the Application Sign–On Security form where they must enter a valid Oracle Applications username and password.

Applsys The installation process registered the Oracle Application Object Library ORACLE username with the Applsys privilege.

See:

Overview of Oracle Applications Security: page 2 – 2

Installing Oracle Applications

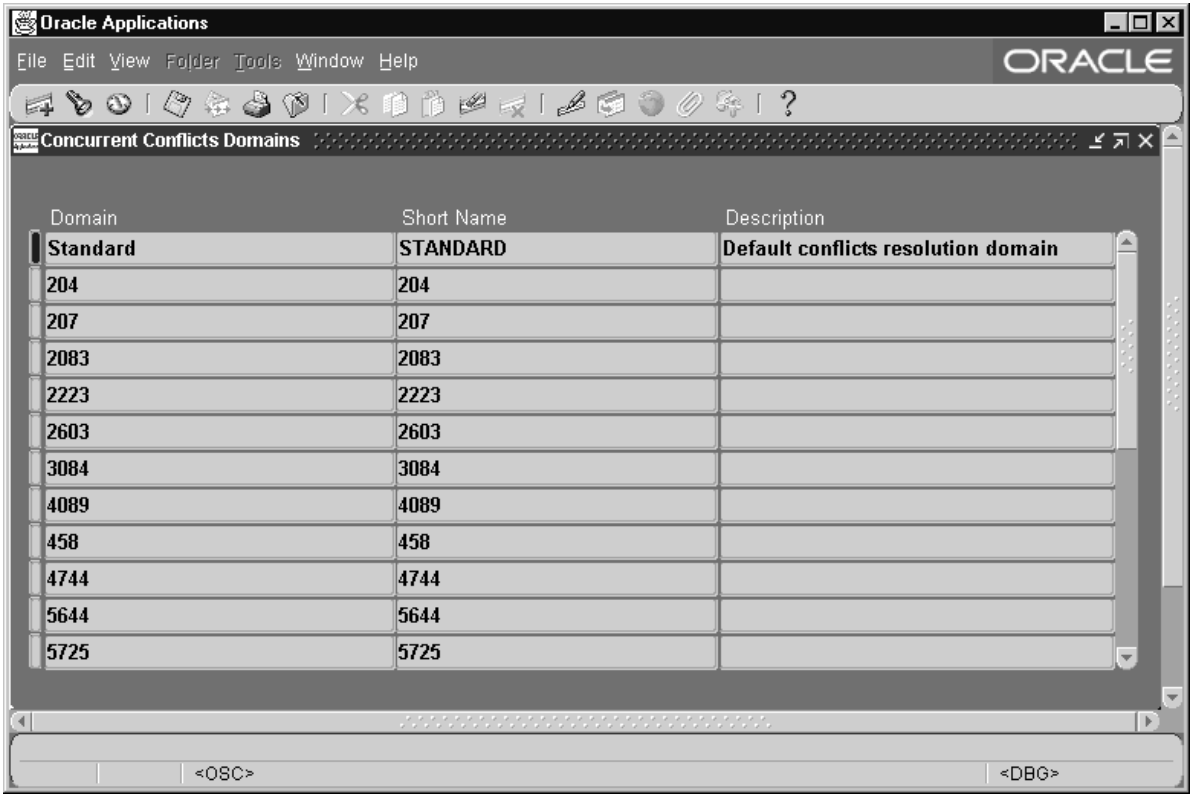
Install Group

Enter the value of the installation group associated with your ORACLE username. Install group numbers should be consecutive whole numbers, where 1 represents the first set of books (or first set of product installations), 2 is the second set of books, 3 is the third set of books, and so on. Install group number 0 represents products that need only single installations.

Attention: Since the installation process does not affect ORACLE usernames (also known as ”schemas”) for custom applications, this value is for your reference only and is currently not used.

See: *Installing Oracle Applications*

Concurrent Conflicts Domains Window



Concurrent conflicts domains ensure that incompatible concurrent programs are not allowed to run simultaneously using related information.

For example, a conflict domain could be a range of numbers. Two concurrent programs could be incompatible if they used the same range of numbers, but compatible if they used different ranges of numbers.

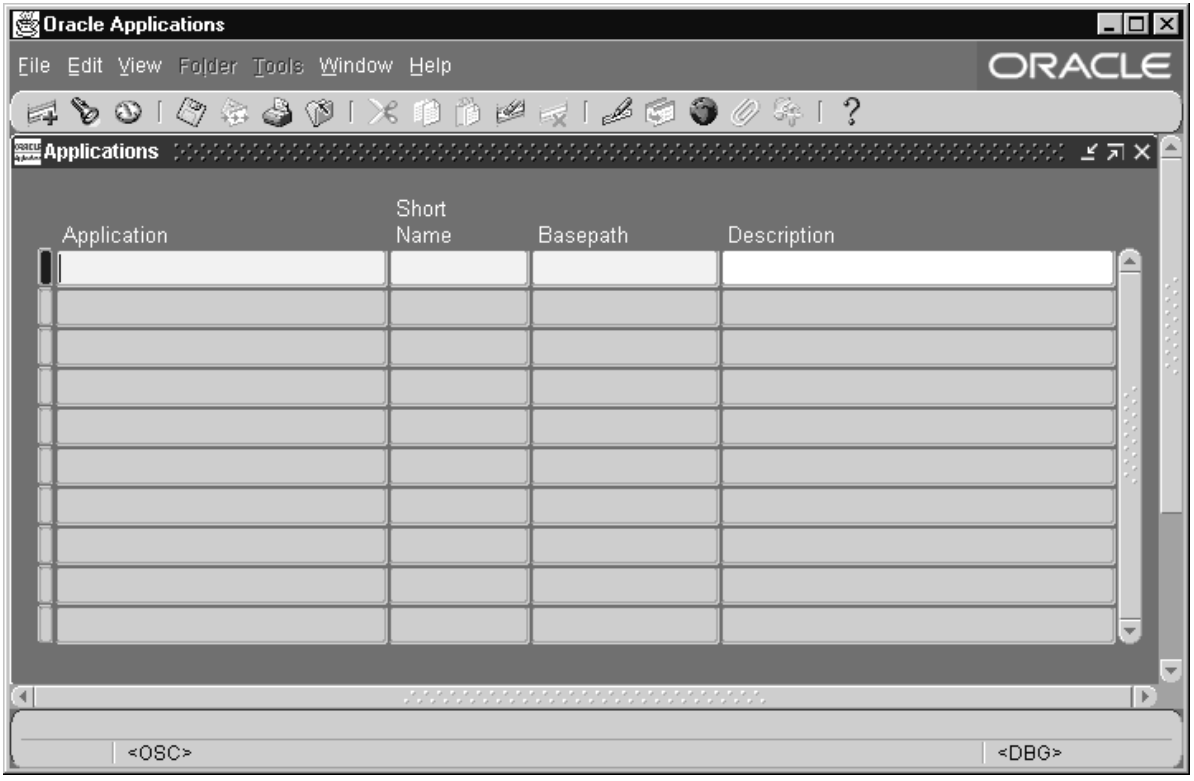
Concurrent managers use concurrent conflicts domains to determine which concurrent programs cannot run at the same time. For example:

- When concurrent program A is defined as incompatible with concurrent program B, then A and B cannot run at the same time using the same concurrent conflict domain.
- If, for example, the programs A and B are assigned to the concurrent conflicts domains *Standard* when they are submitted, then programs A and B will not run together at the same time.

▶ Defining a Conflict Domain

1. Enter a unique Domain name. The name you enter here may be used as a value for a parameter in the Submit Requests window.
2. Enter a unique Short Name for your domain. Limit the Short Name to 8 characters.
3. Optionally, you can provide a description for your domain.

Applications Window



When you define a custom application, you supply several pieces of information to Oracle Applications. You must register your application name, application short name, application basepath, and application description with Oracle Application Object Library. Oracle Application Object Library uses this information to identify application objects such as responsibilities and forms as belonging to your application. This identification with your custom application allows Oracle Applications to preserve your application objects and customizations during upgrades. The application basepath tells Oracle Application Object Library where to find the files associated with your custom application.

You can use your custom application to name your custom menus, concurrent programs, custom responsibilities, and many other custom components. For some objects, the application part of the name only ensures uniqueness across Oracle Applications. For other components, the application you choose has an effect on the functionality of your custom object.

Prerequisites

- ❑ If you are creating a custom application: Define an environment variable that translates to your application's basepath (see *Oracle Applications Concepts* for your operating system).
- ❑ If you are creating a custom application: Set up a directory structure for your application (see *Oracle Applications Concepts* for your operating system)
- ❑ If you are using this window with Oracle Alert: If your application resides in a database other than the database where Oracle Alert resides, you must create a database link.

Applications Block

When you register a custom application, you provide the information Oracle uses to identify it whenever you reference it. Although you can change the name of an application, doing so may cause a change in the application code where you hardcode your application name. For example, if you pass program arguments through the menu that have application name hardcoded, you will also have to update them.

Attention: You should not change the name of any application that you did not develop, as you cannot be sure of the consequences. You should never change the name of any Oracle Applications application, because these applications may contain hardcoded references to the application name.

Application

This user–friendly name appears in lists seen by application users.

Short Name

Oracle Applications use the application short name when identifying forms, menus, concurrent programs and other application components. The short name is stored in hidden fields while the name displays for users.

Your short name should not include spaces. You use an application short name when you request a concurrent process from a form, and when you invoke a subroutine from a menu.

Suggestion: Although your short name can be up to 50 characters, we recommend that you use only four or five

characters for ease in maintaining your application and in calling routines that use your short name. To reduce the risk that your custom application short name could conflict with a future Oracle Applications short name, we recommend that your custom application short name begins with "XX".

Basepath

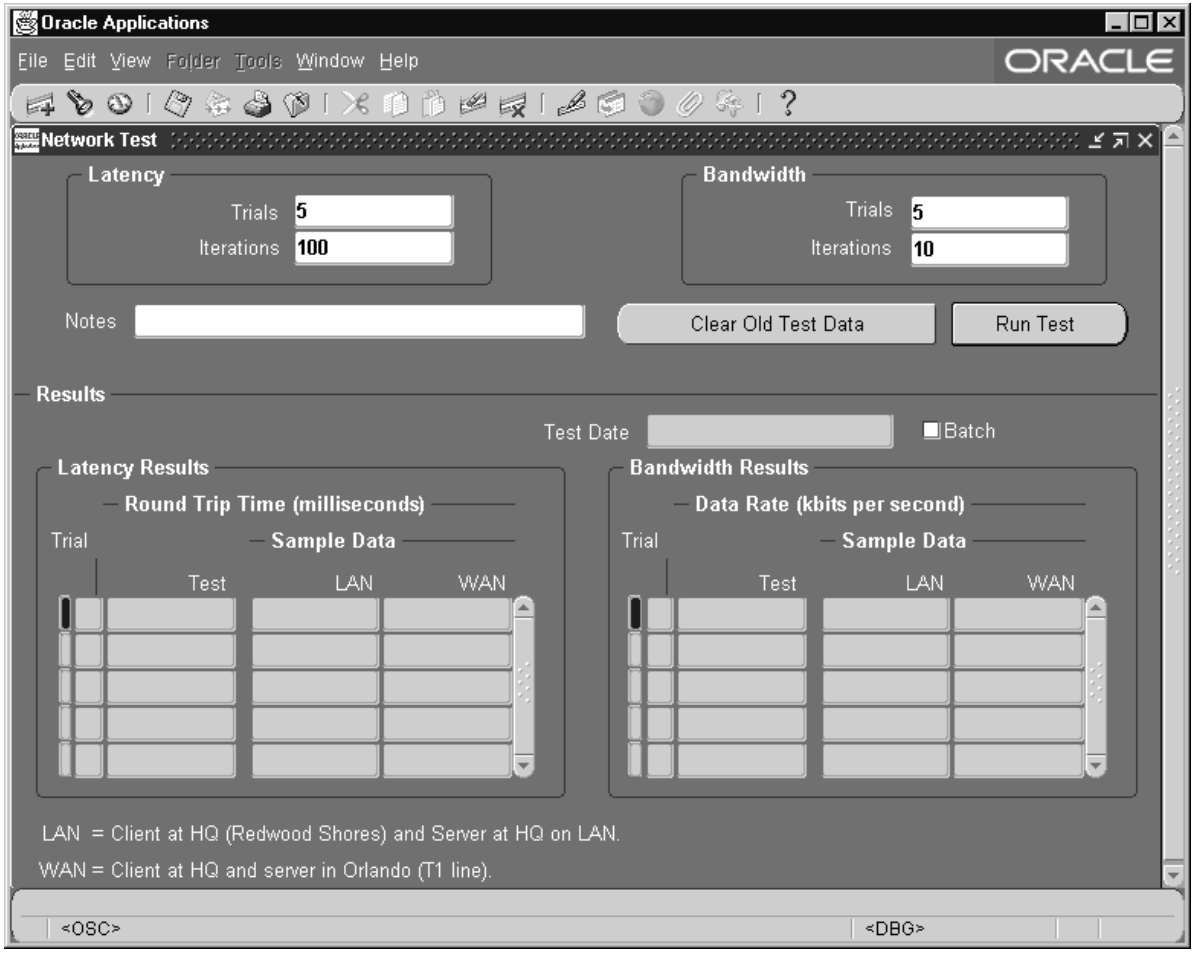
Enter the name of an environment variable that represents the top directory of your application's directory tree. Oracle Applications search specific directories beneath the basepath for your application's executable files and scripts when defining actions that reside in external files.

In general, your application's basepath should be unique so that separate applications do not write to the same directories.

However, you may define custom applications that will be used only for naming your custom responsibilities, menus and other data components. In this case, you can use the basepath of the Oracle application that uses the same forms as your application. For example, if you are defining a Custom_GL application, you could use the GL_TOP basepath for your custom application. In this case, however, you should not create custom components in the directory structure, such as custom forms and reports, because they will be difficult to isolate for maintenance and upgrading.

See: *Oracle Applications Concepts*

Network Test Window



Use the Network Test window to evaluate the performance of your network with Oracle Applications. Knowing the latency and bandwidth available lets you plan and modify your machine setup for the best performance.

The Network Test consists of a latency test and a bandwidth test. Latency is the time it takes for a single packet to make a round trip from your client side application to the server. The bandwidth test examines the data rate to see how many bytes per second your network can transfer from the server to the client.

You can provide notes to indicate the conditions for each test you run.

▶ To Test Latency On a Network

Specify the number of Trials and the Iterations for each trial.

For each iteration, a single packet is sent from the client application to the server and back. A trial consists of the specified number of iterations. The total time for all round trips in a trial is divided by the number of iterations to obtain the average latency that is that trial's result.

The default settings are 5 trials of 100 iterations each.

Select the Run Test button to preform the test.

▶ To Test Bandwidth On a Network

Specify the number of Trials and the Iterations for each trial. For each iteration, several kilobytes of data are sent from the client to the server and back. The form measures the average rate at which the data travels.

The default settings are 5 trials of 10 iterations each.

Select the Run Test button to perform the test.

Evaluating the Test Results

The results of both the latency and bandwidth tests display in the Results block.

Latency Results indicate the average round trip time for a single round trip from a PC client to the server.

Bandwidth results display the average data rate in kilobytes per second over each trial.

For comparison, the sample data fields show the results of tests completed at the development headquarters in Redwood Shores. These tests were conducted under ideal conditions; it is unlikely that your results can match them.

If one test result varies significantly from the other trials, discard that information.

Purging Your Data

Use the Clear Old Test Data button to purge previous test results from your database.

Administering Folders

Administer folders by assigning default folder definitions either to a specific user or to a responsibility. Manage folder definitions by assigning them to new owners, determining which folder definitions should be public (accessible by anyone), and setting the AutoQuery behavior of the folders.

You can do different tasks depending on how you search for folders or folder assignments in the Find Default Folders window.

Prerequisites

- ❑ Create default folders. See: Customizing the Presentation of Data in a Folder *(Oracle Applications User's Guide)*.

▶ **To Assign a Folder to a Responsibility:**

1. Navigate to the Find Default Folders window. Use "Default folder assignments by responsibility" to view the responsibilities for which to assign default folders.
2. You can assign default folders for each responsibility. When users of this responsibility navigate to this folder block, they see the default folder you specify, unless it is overridden by a user–level default.

   From the Folder field, enter the name of the default folder. The name of the folder set to which the folder belongs is filled in automatically.

   If you do not know the name of the folder, enter the folder set first, then view the folders that belong to that set.

   After you save a default folder definition for a folder set, that folder set no longer appears in the list of values.

Folder Set: Every folder set is associated with a particular folder block, and a user or responsibility can have one default folder within each folder set. The folder set name generally describes the records shown in the block; some blocks may have multiple sets of folders associated with them.

▶ **To Assign a Folder to a User:**

1. Navigate to the Find Default Folders window. Use "Default folder assignments by user" to view a list of eligible users.
2. You can assign default folders for each responsibility. When users navigate to this folder block, they see the default folder you specify.

   From the Folder field, enter the name of the default folder. The name of the folder set to which the folder belongs is filled in automatically.

   If you do not know the name of the folder, enter the folder set first, then view the folders that belong to that set.

   After you save a default folder definition for a folder set, that folder set no longer appears in the list of values.

Folder Set: Every folder set is associated with a particular folder block, and a user or responsibility can have one default folder within each folder set. The folder set name generally describes the records shown in the block; some blocks may have multiple sets of folders associated with them.

Source Type: Either User or Responsibility. Records entered in this window use the source type of User. If one of the current user's

responsibilities has default folders defined, the default folders are listed with a source type of Responsibility.

User defaults override Responsibility defaults. You cannot delete Responsibility default folders in this window.

Responsibility: The responsibility which uses this default folder definition.

▶ **To Assign Ownership of a Folder:**

1. Navigate to the Find Default Folders window. Use "Folders" to view general information about folders.
2. Select the folder(s) that requires a change of ownership.
3. Choose "Change Owner" and enter the new owner for the selected folders, or change the value in the Owner field to change the owner of a single folder.

Folder Set: Every folder set is associated with a particular folder block, and a user or responsibility can have one default folder within each folder set. The folder set name generally describes the records shown in the block; some blocks may have multiple sets of folders associated with them.

Public: Whether this folder definition is public; whether users besides the owner can use it. Use this field to determine whether to make folder definitions generally available.

Anyone's Default: Whether this folder definition is used as a default by a user or a responsibility. If it is a default definition, use Default Assignments to view the users and responsibilities for which it is the default folder definition.

Default Assignments: The users and responsibilities that use this folder definition as a default.

▶ **To Delete a Folder Definition**

1. Navigate to the Find Default Folders window. Use "Folders" to view general information about folders.
2. If you queried up multiple folders, select the folder(s) to delete.
3. Delete the folder. Deleting folders deletes the folder definition along with any user and responsibility default assignments for the folder.

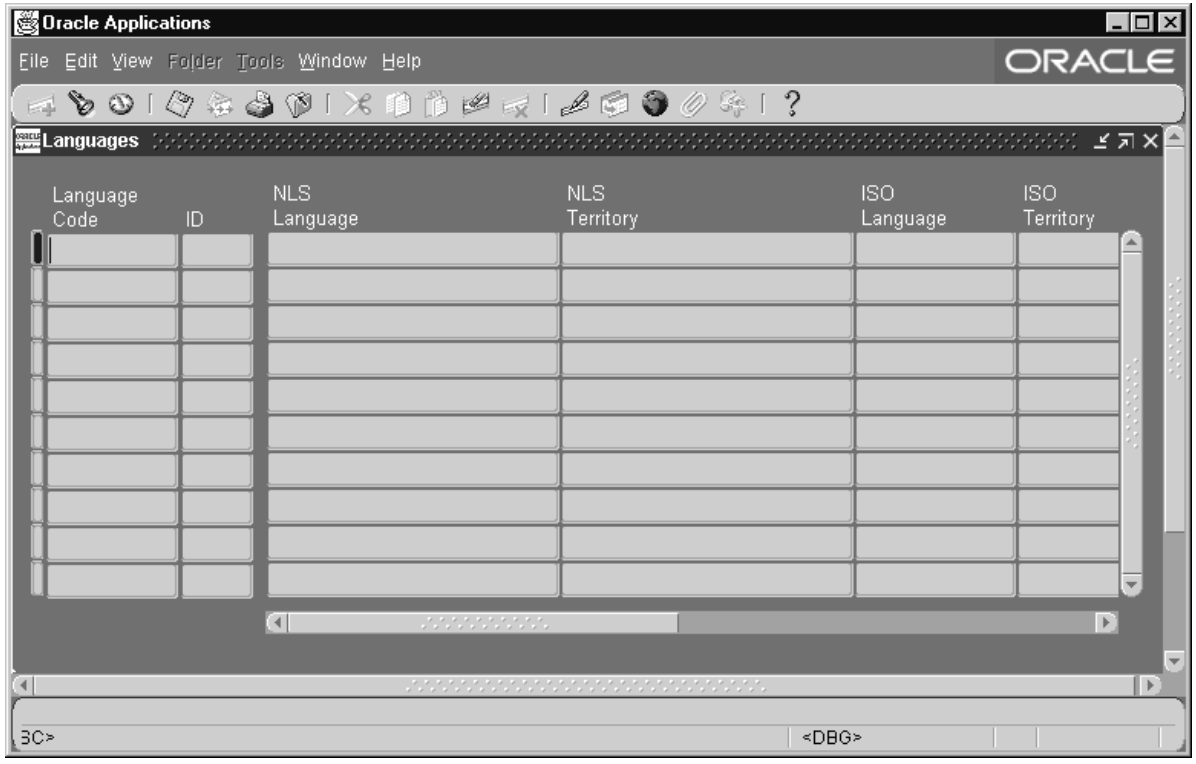
See Also

Customizing the Presentation of Data in a Folder *(Oracle Applications User's Guide)*

Querying Records in a Folder *(Oracle Applications User's Guide)*

Managing Folder Definitions *(Oracle Applications User's Guide)*

Languages Window



Use the Languages window to review and modify information about the languages available for use in Oracle Applications.

Languages Block

Each record includes the primary language, such as 'en' for English, the territory code where the dialect is spoken, such as 'US' for U.S.A., the short name for the dialect, such as 'usaeng', and the full name of the dialect, such as 'American English'. Each record also includes the internal language code and territory code, the ISO (International Standards Organization) language code and territory code, the code set for the dialect, and a status indicator for the dialect.

Normally you would not want to update the seeded data that comes with your products, but you may wish to modify the way the Language Description is represented in the Translations window.

Description

You can update the description of the Language to change the field name displayed in the Translations window.

Territories Window

Use the Territories window to review and modify information for the country values used in Oracle Applications.

Territories Block

Each record includes the two–letter upper case territory Code such as ”US”, the Short Name for the territory such as ”United States”, the NLS Code, the ISO numeric entity code, an Alternate territory code, the EU Country Code, and a longer description (Description), such as ”United States of America”.

Normally you would not want to update the seeded data that comes with your products, but you may wish to modify the way the country is represented in List of Values through out your applications.

Description

You can update the description of the Territory to change the territory value displayed in List of Values used in Oracle Application products.

CHAPTER

9 Cost–Based Optimization in Oracle Applications

This chapter explains how you implement cost–based optimization in Oracle Applications.

Oracle Applications and Cost–Based Optimization

Oracle Applications Release 11*i* uses the cost–based optimization (CBO) approach in choosing the most efficient way to execute SQL statements. Using this approach, the optimizer determines which execution plan is most efficient by considering available access paths and factoring information based on statistics for the schema objects accessed by the SQL statement.

To use cost–based optimization effectively, you must keep your database statistics current. Oracle Applications provides a set of procedures in the FND_STATS package to help you collect these statistics. FND_STATS uses the DBMS_STATS package to gather statistics.

Also, you can manipulate some of your session level parameters for testing optimization. These parameters can be controlled by the system profile option "Initialization SQL Statement – Custom." Use the FND_CTL procedures in this profile option's value for an applications user's session.

For information on cost–based optimization, refer to *Oracle 8i Concepts* and *Oracle 8i Tuning.*

Parameters for Cost–Based Optimization

This section describes the mandatory parameters in the `init.ora` file related to cost–based optimization.

Most of these parameters are dynamic and can be set at the session level. For online users, there are profile options to change the parameter values. For concurrent programs, the Define Concurrent Programs form allows the system administrator or application developer to specify an optimizer mode. Other parameters are set by profile options.

optimizer_features_enable

This parameter allows you to change the `init.ora` parameters which control the optimizer's behavior. Set this parameter to the current release.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
optimizer_features_enable = 8.1.6
```

optimizer_mode

This parameter specifies the behavior of the optimizer. Prior to Release 11*i*, `optimizer_mode` was always set to `rule`. For Release 11*i*, you must set `optimizer_mode` to `choose`. Although Oracle Applications modules will set the optimizer mode to either `first_rows` or `all_rows`, depending on whether the session is online or batch, an Oracle Applications database must be started with the optimizer mode set to `choose`. Many of the system dictionary views, in particular Export, still require rule–based optimization. In general, the profile options will ensure that online users use `first_rows`, and that batch jobs use `all_rows`.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
optimizer_mode = choose
```

_optimizer_undo_changes

This parameter is not dynamic and for rule–based optimization (RBO) compatibility must remain as `TRUE`. For Release 11*i*, it is recommended that this parameter be set to `FALSE;` but if custom code continues to

use RBO, and experiences performance problems, then setting this parameter to TRUE should not affect CBO queries. This parameter will be removed in a future release.

Example:

```
_optimizer_undo_changes = FALSE
```

_optimizer_mode_force

This parameter forces recursive SQL (packaged SQL) to use the optimizer_mode from the current environment. This paramater must be set to TRUE.

Example:

```
_optimizer_mode_force = TRUE
```

db_file_multiblock_read_count

This parameter is used for multi–block I/O and specifies the minimum number of blocks read in one I/O operation during a sequential scan. In previous releases, many Oracle Applications customers had multiblock read count set at 16 or 32 depending on block size. For Release 11*i*, the recommended value is now 8 because this provides the best value for CBO.

This parameter can be set at the session level, so specific batch jobs, index rebuilds, and the analyze command can take full advantage of the maximum available multiblock I/O.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
db_file_multiblock_read_count = 8
```

optimizer_max_permutations

This parameter lets the user limit the amount of work the optimizer expends on optimizing queries with large joins. The default (80000) can cause excessive parse times in some circumstances. If necessary, and if recommended to do so by Oracle Support, this value can be reduced to just under 80000 (79000). The parameter must be set to 79,000 or less in order to allow the optimizer to consider more than the starting table. The default of 80,000 limits the number of starting tables that the optimizer considers.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
optimizer_max_permutations = 79000
```

_complex_view_merging

This parameter enables the complex view merging feature which allows certain types of complex views to be merged such as the Apps KFV views. This parameter is disabled by default, so it must be explicitly set.

Example:

```
_complex_view_merging = TRUE
```

_push_join_predicate

This parameter enables the push join predicate feature that allows the optimizer to push join predicates inside nonmergeable views. This helps eliminate full table scans against the adjoining table of a nonmergeable view. Pushing the join predicate allows the optimizer to promote an index on the table inside the view and utilize a nested loop join to the outer referencing table. Push join predicate is disabled by default, so it must be explicitly enabled.

Example:

```
_push_join_predicate = TRUE
```

_sort_elimination_cost_ratio

Setting this parameter to 5 forces the optimizer to only eliminate the sort when it is 1/5th the cost of the index probe (or conversely the index probe is 5 times as costly as the sort).

Example:

```
_sort_elimination_cost_ratio = 5
```

_use_column_stats_for_function

This parameter allows the optimizer to utilize dictionary statistics for columns that are involved in no–op expressions such as [col + 0] and [col || ''']. If this parameter is disabled (FALSE), the optimizer will employ internal default statistics for these complex expressions that can result in higher parse times and more expensive execution plans.

Example:

```
_use_column_stats_for_function = TRUE
```

_like_with_bind_as_equality

This parameter forces the optimizer to treat expressions of the form `[indexed-column like :b1]` similarly to `[index-column = :b1]`. Oracle Applications have many queries which use the `LIKE` operator on indexed columns with binds. Since binds are involved, CBO assigns internal default selectivity estimates for the `LIKE` operator (5%), and hence does not consider the index selective.

Example:

```
_like_with_bind_as_equality = TRUE
```

_or_expand_nvl_predicate

This parameter allows the optimizer to probe an index for a column involved in an nvl() function as an r–value.

If enabled, the optimizer transforms expressions of the form

```
[p.project_id = nvl(:b1,p.project_id)]
```

into an `OR` expanded `UNION` where one side of the `UNION` contains the predicate

```
((:b1 is not null) and (p.project_id =:b1))
```

and the second branch of the `UNION` contains the predicate

```
(:b1 is null)
```

Therefore, if a value for the `project_id` bind is supplied, the optimizer executes the first branch of the `UNION` and probes the `project_id` index.

This improves performance for the Oracle Applications legacy code which employs the nvl() construct on indexed columns.

Example:

```
_or_expand_nvl_predicate = TRUE
```

_push_join_union_view

This parameter allows the optimizer to push join predicates inside nonmergeable views which contain `UNION ALL` set operators. This improves query execution performance for queries joining to views which contain `UNION ALL` operators.

Example:

```
_push_join_union_view = TRUE
```

_table_scan_cost_plus_one

This parameter increases the cost of a full table scan by one in order to eliminate ties between a full table scan on a small lookup table and the cost of a unique or range index scan on the lookup table.

Example:

```
_table_scan_cost_plus_one = TRUE
```

_fast_full_scan_enabled

This parameter is used to disable fast full scans.

Example:

```
_fast_full_scan_enabled = FALSE
```

_ordered_nested_loop

When set to TRUE, this parameter reduces the cost of a nested loop join / index probe when the left side of the join input is being satisfied via an index or sort row source.

Example:

```
_ordered_nested_loop = TRUE
```

optimizer_percent_parallel

This parameter specifies the amount of parallelism to include in the CBO cost function. The default is zero, and normally should not be changed. It is necessary to ensure that parallel query is not included in costing.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
optimizer_percent_parallel=0
```

query_rewrite_enabled

This parameter allows you to enable or disable query rewriting. This parameter must be set to TRUE for materialized views and function

based indexes, which are used in some applications in Release 11*i*. The recommended value is `TRUE`.

For more information on this parameter, see *Oracle 8i Reference*.

Example:

```
query_rewrite_enabled = TRUE
```

compatible

The Oracle 8*i* release for your Oracle Applications instance.

Example:

```
compatible = 8.1.6
```

Concurrent Programs for CBO

Oracle Applications provides concurrent programs that use the package FND_STATS to gather statistics for your applications database objects. See: FND_STATS Package: page 9 – 17

For information on DBMS_STATS see *Oracle 8i Tuning*.

The following concurrent programs are available for collecting and maintaining statistics:

- Gather Table Statistics
- Backup Table Statistics
- Restore Table Statistics
- Gather Schema Statistics
- Gather Column Statistics
- Analyze All Index Columns

Gather Table Statistics

The Gather Table Statistics program gathers the table statistics for the specified table. This program keeps a backup of existing statistics in the FND_STATTAB table before gathering new statistics. This program also gathers the related index statistics by default.

This concurrent program attempts to parallelize as much of the work as possible. This operation does not parallelize if the user does not have select privilege on the table being analyzed. If the value of `backup_flag` is `BACKUP` then it exports the old statistics using `export_table_stats` before gathering the new statistics. The exported data is stored in FND_STATTAB. If the value of `backup_flag` is anything other than `BACKUP` then the table statistics are not exported.

For a detailed description of the procedure used by this concurrent program, see: GATHER_TABLE_STATS Procedure: page 9 – 24.

Parameters

Owner Name

The owner of the table.

Table Name

The name of the table.

Percent

The percentage of the rows to use for the statistics using the estimation technique. `NULL` means to use exact computation. The valid range is from 0 to 99.

Degree

The degree of parallelism. `NULL` means to use the table default value.

Partition Name

The name of the partition.

Backup Flag

The backup flag indicates whether to backup statistics. Set this flag to `BACKUP` to back up your statistics.

Granularity

The granularity of statistics to collect (only relevant for tables that are partitioned). Valid values are:

`DEFAULT` – Gather global and partition–level statistics.

`SUBPARTITION` – Gather subpartition–level statistics.

`PARTITION` – Gather partition–level statistics.

`GLOBAL` – Gather global statistics.

`ALL` – Gather all (subpartition, partition, and global) statistics.

Backup Table Statistics

This concurrent program stores the statistics of the given table into the FND_STATTAB table. This program also backs up the related index and column statistics by default.

You can assign the statistics an identifier that can be used with the Restore Table Statistics program. Statistics can be backed up with different statistics identifiers. The default identifier is BACKUP. You can keep different versions of the backup with different identifiers.

For a detailed description of the procedure used by this concurrent program, see: BACKUP_TABLE_STATS Procedure: page 9 – 17.

Parameters

Schema Name

The name of the schema. The value ALL means all Oracle Applications schemas.

Table Name

The name of the table.

Statistics ID

An optional identifier to associate with these statistics within FND_STATTAB.

Partition Name

Name of the table partition. If the table is partitioned and if the partition name is NULL, then global and partition table statistics are exported.

Restore Table Statistics

This concurrent program restores the previously backed up table statistics from a given statistics identifier. The default statistics identifier is BACKUP.

All index and column statistics associated with the specified table are imported as well.

For a detailed description of the procedure used by this concurrent program, see: RESTORE_TABLE_STATS Procedure: page 9 – 19.

Parameters

Owner Name

The name of the schema. The value ALL means all Oracle Applications schemas.

Table Name

The name of the table.

Statistics ID

An optional identifier to associate with these statistics within FND_STATTAB.

Partition Name

Name of the table partition. If the table is partitioned and if the partition name is NULL, then global and partition table statistics are imported.

Gather Schema Statistics

This concurrent program gathers the specified schema level statistics.

Before gathering the statistics, this program also creates a backup of the existing statistics so that if the database slows down after gathering new statistics, you can restore the system to its previous status. The statistics ID used for this backup is NULL.

After gathering the schema level statistics this program creates the histogram for the specified columns in the FND_HISTOGRAM_COLS tables.

Also, this program populates default statistics for all the INTERFACE tables as specified in the FND_EXCLUDE_TABLE_STATS table.

You should run this concurrent program periodically.

For a detailed description of the procedure used by this concurrent program, see: GATHER_SCHEMA_STATS Procedure: page 9 – 21.

Parameters

Schema Name

The name of the schema to analyze. Specify ALL for all Oracle Applications schemas (all schemas that have an entry in the FND_PRODUCT_INSTALLATIONS table).

Percent

The percentage of the rows to estimate. NULL means to use exact computation. The valid range is from 0 to 99.

Degree

The degree of parallelism. NULL means to use the table default value.

Backup Flag

If the value is NOBACKUP then the GATHER_SCHEMA_STATS procedure will not take a backup of the current statistics. This way the GATHER_SCHEMA_STATS procedure will run faster. If the Internal Flag is set to INTERNAL, the ANALYZE command will be used instead of DBMS_STATS.

Gather Column Statistics

This concurrent program is actually two procedures which gather column statistics. One procedure gathers the column statistics for all the columns specified in the SEED data table FND_HISTOGRAM_COLS. The second procedure gathers the column statistics for a specified `column_name` in a given table.

The procedure takes a backup into the FND_STATTAB table before gathering the statistics.

For a detailed description of the procedure used by this concurrent program, see: GATHER_COLUMN_STATS Procedure: page 9 – 26.

Parameters

Table Owner

The owner of the table.

Table Name

The name of the table.

Column Name

The name of the column.

Estimate Percent

The percentage of the rows to use for the statistics using the estimation technique. `NULL` means to use exact computation. The valid range is from 0 to 99.

Parallel Degree

The degree of parallelism. `NULL` means to use the table default value.

Bucket Size

The number of buckets in the histogram.

Backup Flag

The backup flag indicates whether to backup statistics. Set this flag to `BACKUP` to back up your statistics. `NULL` means no backup will be taken.

Analyze All Index Column Statistics

This concurrent program is obsolete in Release 11*i*.

FND_STATS Package

The FND_STATS package provides procedures for gathering statistics for Oracle Applications database objects. It also provides procedures for storing the current statistics in a table (FND_STATTAB) and restoring them back. This package also facilitates the gathering of some statistics in parallel. This package calls the DBMS_STATS package.

The FND_STATS package also has procedures to populate the FND_STATS_HIST table to record the time taken for gathering the statistics for the different types of objects.

For more information on DBMS_STATS, see *Oracle 8i Tuning* and *Oracle 8i Supplied Packages Reference*.

CREATE_STAT_TABLE Procedure

This procedure creates a table with the name FND_STATTAB in the APPLSYS schema to hold statistics. This table should be accessed only through the procedures in this package.

The first procedure below creates the default table FND_STATTAB in the FND specific schema. The other procedure uses parameters for schema name, table name and tablespace name.

Syntax

```
FND_STATS.CREATE_STAT_TABLE ;

FND_STATS.CREATE_STAT_TABLE (
   schemaname  IN  VARCHAR2,
   tabname     IN  VARCHAR2,
   tblspcname  IN  VARCHAR2);
```

Parameters

schemaname	Name of the schema.
tabname	Name of the table.
tblspcname	Tablespace in which to create the statistics tables. If none is specified, then the tables are created in the user's default tablespace.

BACKUP_TABLE_STATS

This procedure stores the statistics for a particular table in the FND_STATTAB table. Setting `cascade` to `TRUE` results in all index and

column statistics associated with the specified table being stored as well. A different version can be stored by specifying a different statistics identifier (`statid`).

Syntax

```
FND_STATS.BACKUP_TABLE_STATS (
   errbuf      OUT  VARCHAR2,
   retcode     OUT  VARCHAR2,
   schemaname  VARCHAR2,
   tabname     VARCHAR2,
   statid      VARCHAR2 DEFAULT 'BACKUP',
   partname    VARCHAR2 DEFAULT NULL,
   cascade     BOOLEAN  DEFAULT TRUE);

FND_STATS.BACKUP_TABLE_STATS (
   schemaname  VARCHAR2,
   tabname     VARCHAR2,
   statid      VARCHAR2 DEFAULT 'BACKUP',
   partname    VARCHAR2 DEFAULT NULL,
   cascade     BOOLEAN  DEFAULT TRUE);
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
schemaname	Name of the schema.
tabname	Name of the table.
statid	Optional identifier to associate with these statistics within FND_STATTAB.
partname	Name of the table partition. If the table is partitioned and if `partname` is `NULL`, then global and partition table statistics are exported.
cascade	If `TRUE`, then column and index statistics for this table are also exported.

BACKUP_SCHEMA_STATS Procedure

This procedure stores the statistics for a schema in the FND_STATTAB table. A different version can be stored by specifying a different `statid`.

Syntax

```
FND_STATS.BACKUP_TABLE_STATS (
   schemaname  VARCHAR2,
   statid      VARCHAR2 DEFAULT NULL
   );
```

Parameters

schemaname	Name of the schema. `ALL` means all Oracle Applications schemas.
statid	Optional identifier to associate with these statistics within FND_STATTAB.

RESTORE_SCHEMA_STATS Procedure

This procedure retrieves statistics for all objects in the schema identified by `schemaname` from the FND_STATTAB table for the given `statid` and stores them in the dictionary.

Syntax

```
FND_STATS.RESTORE_SCHEMA_STATS (
   schemaname  VARCHAR2,
   statid      VARCHAR2 DEFAULT NULL
   );
```

Parameters

schemaname	Name of the schema. `ALL` means all Oracle Applications schemas.
statid	Optional identifier to associate with these statistics within FND_STATTAB.

RESTORE_TABLE_STATS Procedure

This procedure retrieves statistics for a particular table from the FND_STATTAB table for the given `statid` (optional) and stores them in the dictionary. Setting `cascade` to `TRUE` results in all index and column statistics associated with the specified table being imported also.

Syntax

```
FND_STATS.RESTORE_TABLE_STATS (
   errbuf   VARCHAR2,
   retcode  VARCHAR2,
   ownname  VARCHAR2,
   tabname  VARCHAR2,
   statid   VARCHAR2 DEFAULT NULL,
   partname VARCHAR2 DEFAULT NULL,
   cascade  BOOLEAN  DEFAULT TRUE,
   );

FND_STATS.RESTORE_TABLE_STATS (
   ownname  VARCHAR2,
   tabname  VARCHAR2,
   statid   VARCHAR2 DEFAULT NULL,
   partname VARCHAR2 DEFAULT NULL,
   cascade  BOOLEAN  DEFAULT TRUE,
   );
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
ownname	Name of the schema.
tabname	Name of the table.
statid	Optional identifier to associate with these statistics within FND_STATTAB.
partname	Name of the table partition. If the table is partitioned and if `partname` is `NULL`, then global and partition table statistics are exported.
cascade	If `TRUE`, then column and index statistics for this table are also exported.

RESTORE_COLUMN_STATS Procedure

This procedure retrieves statistics for a particular column from the FND_STATTAB table for the given `statid` (optional) and stores them in the dictionary. There are two versions of this procedure. One uses

specific input values for the owner/table and columns . The other version restores the statistics for all the columns as specified in the FND_HISTOGRAM_COLS table.

Syntax

```
FND_STATS.RESTORE_COLUMN_STATS (
   ownname  VARCHAR2,
   tabname  VARCHAR2,
   colname  VARCHAR2,
   partname VARCHAR2 DEFAULT NULL,
   statid   VARCHAR2 DEFAULT NULL
   );

FND_STATS.RESTORE_COLUMN_STATS (
   statid   VARCHAR2 DEFAULT NULL
   );
```

Parameters

ownname	Name of the schema.
tabname	Name of the table.
colname	Name of the column. Optional identifier to associate with these statistics within FND_STATTAB .
partname	Name of the table partition. If the table is partitioned and if `partname` is `NULL`, then global and partition table statistics are exported.
statid	Optional identifier to associate with these statistics within FND_STATTAB.

GATHER_SCHEMA_STATS Procedure

This procedure gathers statistics for all objects in a schema.

This procedure is also available through the concurrent program ”Gather Schema Statistics.”

If this procedure fails at any time during operation, it can be restarted by supplying the request ID for the request that failed. The request ID can be captured when the program is started from concurrent manager.

Syntax

```
FND_STATS.GATHER_SCHEMA_STATS (
   schemaname       VARCHAR2,
   estimate_percent NUMBER   DEFAULT NULL,
   degree           NUMBER   DEFAULT NULL,
   internal_flag    NUMBER   DEFAULT NULL,
   Errors      OUT  Error_Out
   );

FND_STATS.GATHER_SCHEMA_STATS (
   errbuf            OUT VARCHAR2 ,
   retcode           OUT VARCHAR2 ,
   schemaname        VARCHAR2,
   estimate_percent NUMBER   DEFAULT NULL,
   degree            NUMBER   DEFAULT NULL,
   );
```

This procedure has output parameters and cannot be used directly from the SQL*Plus prompt. An example SQL wrapper is shown below.

Example

```
set   serveroutput on

BEGIN
   DECLARE
   Error FND_STATS.Error_Out;
BEGIN

FND_STATS.GATHER_SCHEMA_STATS('&schema',&percent,
         &degree,'&flag',Error);
   FOR i in 0..FND_STATS.MAX_ERRORS_PRINTED LOOP

     exit when Error(i) is null;
     dbms_output.put_line('Error
         #'||i||' '||Error(i));

   END LOOP;
END;
END;
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
schemaname	Schema to analyze. `ALL` means all Oracle Applications schemas.
estimate_percent	Percentage of rows to use for the statistics using the estimation. If you enter `NULL`, the procedure will default to 10%. The valid range is [00,99].
degree	Degree of parallelism. `NULL` will default to `min(cpu_count, parallel_max_servers)`.
internal_flag	If the value is `NOBACKUP` then GATHER_SCHEMA_STATS will not create a backup of the current statistics. This way the GATHER_SCHEMA_STATS procedure will be completed faster. `INTERNAL` means that the `ANALYZE` command will be used instead of DBMS_STATS.
errors	Output errors.

Exceptions

```
ORA-20000: Schema does not exist or insufficient
privileges.

ORA-20001: Bad input value.
```

GATHER_INDEX_STATS Procedure

This procedure gathers index statistics. It is equivalent to running `ANALYZE INDEX [ownname.]indname [PARTITION partname] COMPUTE STATISTICS | ESTIMATE STATISTICS SAMPLE estimate_percent PERCENT`.

It does not execute in parallel.

If the value of `backup_flag` is `BACKUP`, then it executes the procedure EXPORT_TABLE_STATS before gathering the statistics. The exported data is stored in FND_STATTAB. If the value of `backup_flag` is not `BACKUP` then EXPORT_TABLE_STATS is not performed.

Syntax

```
FND_STATS.GATHER_INDEX_STATS (
   ownname           VARCHAR2,
```

```
   indname          VARCHAR2,
   percent          NUMBER DEFAULT NULL,
   partname         VARCHAR2 DEFAULT NULL,
   backup_flag      VARCHAR2 DEFAULT NULL
);
```

Parameters

ownname	Schema of index to analyze.
indname	Name of index.
percent	Percentage of rows to use for the statistics using the estimation. NULL means to use exact computation. The valid range is [00,99].
partname	Partition name.
backup_flag	The value BACKUP indicates that the procedure EXPORT_TABLE_STATS is executed before gathering statistics. The default value is NULL.

GATHER_TABLE_STATS Procedure

This procedure gathers table and column (and index) statistics. It attempts to parallelize as much of the work as possible. This operation does not parallelize if the user does not have select privilege on the table being analyzed.

If the value of backup_flag is BACKUP, then it executes the procedure EXPORT_TABLE_STATS before gathering the statistics. The exported data is stored in FND_STATTAB. If the value of backup_flag is not BACKUP then EXPORT_TABLE_STATS is not performed.

Syntax

```
FND_STATS.GATHER_TABLE_STATS (
   errbuf           OUT VARCHAR2,
   retcode          OUT VARCHAR2,
   ownname          VARCHAR2,
   tabname          VARCHAR2,
   percent          NUMBER   DEFAULT NULL,
   degree           NUMBER   DEFAULT NULL,
   partname         VARCHAR2 DEFAULT NULL,
   backup_flag      VARCHAR2 DEFAULT NULL,
```

```
   cascade           BOOLEAN  DEFAULT TRUE,
   tmode             VARCHAR2 DEFAULT 'NORMAL',
   granularity       VARCHAR2 DEFAULT 'DEFAULT'
   );

FND_STATS.GATHER_TABLE_STATS (
   ownname           VARCHAR2,
   tabname           VARCHAR2,
   percent           NUMBER   DEFAULT NULL,
   degree            NUMBER   DEFAULT NULL,
   partname          VARCHAR2 DEFAULT NULL,
   backup_flag       VARCHAR2 DEFAULT NULL,
   cascade           BOOLEAN  DEFAULT TRUE,
   tmode             VARCHAR2 DEFAULT 'NORMAL'
   );
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
ownname	Owner of the table.
tabname	Name of the table.
percent	Percentage of rows to use for the statistics using the estimation. NULL means to use exact computation. The valid range is [00,99].
degree	Degree of parallelism. NULL means to use the table default value.
partname	Name of the partition.
backup_flag	The value BACKUP indicates that the procedure EXPORT_TABLE_STATS is executed before gathering statistics. The default value is NULL.
cascade	Gather statistics on the indexes for this table. Index statistics gathering is not parallelized. Using this option is equivalent to running the GATHER_INDEX_STATS procedure on each of the table's indexes.
tmode	Table mode. Valid values are INTERFACE, NORMAL, and TEMPORARY. INTERFACE – GATHER_TABLE_STATS assumes that the statistics for this table are available in

FND_EXCLUDE_TABLE_STATS and populates the statistics from there.

NORMAL – GATHER_TABLE_STATS gathers statistics for the table.

TEMPORARY – should be used for interface tables that have transient data; that is, the table is populated but never commited within a transaction. In this case, because the data is not committed, calling ANALYZE does an implicit commit which is not desirable. Using the tmode=TEMPORARY option, GATHER_TABLE_STATS will gather the table_statistics (without the indexes) and set some artificial statistics for all the indexes based on the actual uncommitted data.

granularity The granularity of statistics to collect (only relevant for tables that are partitioned). Valid values are DEFAULT, SUBPARTITION, GLOBAL, and ALL.

DEFAULT – Gather global and partition–level statistics.

SUBPARTITION – Gather subpartition–level statistics.

PARTITION – Gather partition–level statistics.

GLOBAL – Gather global statistics.

ALL – Gather all (subpartition, partition, and global) statistics.

GATHER_COLUMN_STATS Procedure

This procedure gathers column statistics. One version of the procedure gathers the column statistics for those columns specified in the SEED data table FND_HISTOGRAM_COLS. The other procedure gathers the column statistics for the specified column.

Syntax

```
FND_STATS.GATHER_COLUMN_STATS (
   appl_id          NUMBER DEFAULT NULL,
   percent          NUMBER DEFAULT NULL,
   degree           NUMBER DEFAULT NULL,
```

```
   backup_flag      VARCHAR2 DEFAULT NULL,
   Errors   OUT     Error_Out
   );

FND_STATS.GATHER_COLUMN_STATS (
   ownname          VARCHAR2,
   tabname          VARCHAR2,
   colname          VARCHAR2,
   percent          NUMBER   DEFAULT NULL,
   degree           NUMBER   DEFAULT NULL,
   hsize            NUMBER   DEFAULT 254,
   backup_flag      VARCHAR2 DEFAULT NULL,
   partname         VARCHAR2 DEFAULT NULL
   );

FND_STATS.GATHER_COLUMN_STATS (
   errbuf           OUT VARCHAR2,
   retcode          OUT VARCHAR2,
   ownname          VARCHAR2,
   tabname          VARCHAR2,
   colname          VARCHAR2,
   percent          NUMBER   DEFAULT NULL,
   degree           NUMBER   DEFAULT NULL,
   hsize            NUMBER   DEFAULT 254,
   backup_flag      VARCHAR2 DEFAULT NULL,
   partname         VARCHAR2 DEFAULT NULL
   );
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
appl_id	Application ID.
ownname	Owner of the table.
colname	Column name.
tabname	Table name.
percent	Percentage of rows to use for the statistics using the estimation. NULL means to use exact computation. The valid range is [00,99].

degree	Degree of parallelism. NULL means to use the table default value.
hsize	Number of buckets in the histogram.
backup_flag	The value BACKUP indicates that the procedure EXPORT_TABLE_STATS is executed before gathering statistics. The default value is NULL.
partname	Name of the partition.
errors	Error output.

GATHER_ALL_COLUMN_STATS Procedure

This procedure gathers column statistics for the given schema as listed in the FND_HISTOGRAM_COLS table.

Syntax

```
FND_STATS.GATHER_ALL_COLUMN_STATS (
   ownname           VARCHAR2 ,
   percent           NUMBER DEFAULT NULL,
   degree            NUMBER DEFAULT NULL
   );

FND_STATS.GATHER_ALL_COLUMN_STATS (
   errbuf     OUT    VARCHAR2,
   retcode    OUT    VARCHAR2,
   ownname           VARCHAR2,
   percent           NUMBER DEFAULT NULL,
   degree            NUMBER DEFAULT NULL
   );
```

Parameters

errbuf	Required for running as a concurrent process.
retcode	Required for running as a concurrent process.
ownname	Owner of the table. ALL means all Applications schemas.
percent	Percentage of rows to use for the statistics using the estimation. NULL means to use exact computation. The valid range is [00,99].

degree Degree of parallelism. NULL means to use the table default value.

ANALYZE_ALL_COLUMNS Procedure

This procedure is obsolete in Release 11*i*.

LOAD_XCLUD_STATS Procedure

This procedure loads the default statistics as specified in the SEED data table FND_EXCLUDE_TABLE_STATS. There are two versions of this procedure. One version loads statistics for all the tables for a particular schema and the other version loads statistics for a given table in a given schema.

Syntax

```
FND_STATS.LOAD_XCLUD_STATS (
   schemaname        VARCHAR2
   );

FND_STATS.LOAD_XCLUD_STATS (
   schemaname        VARCHAR2,
   tablename         VARCHAR2
   );
```

Parameters

schemaname Name of the schema.

tablename Name of the table.

CHECK_HISTOGRAM_COLS Procedure

For a given list of comma–separated tables, this procedure checks the data in all the leading columns of all the non–unique indexes of those tables and determines if histograms need to be created for those columns. The algorithm for this procedure is:

```
select
decode(floor(sum(tot)/(max(cnt)*FACTOR)),0,'YES','NO') HIST
```

```
from (select count(col) cnt , count(*) tot
from tab sample (PERCENT)
where col is not null
group by col);
```

The decode statement determines whether a single value occupies 1/FACTOR or more of the sample PERCENT.

If sum(cnt) is very small (a small non–null sample), the results may be inaccurate. A count(*) of at least 3000 is recommended. The procedure is run from a SQL prompt after setting the server output on.

Syntax

```
FND_STATS.CHECK_HISTOGRAM_COLS (
   tablelist          VARCHAR2,
   factor             NUMBER DEFAULT 75,
   percent            NUMBER DEFAULT 10,
   degree             NUMBER DEFAULT NULL
   );
```

Parameters

tablelist	A comma separated list of tables. It should be of the form schema.tablename. A wildcard in the tablename is also allowed. For example, tablelist=>'oe.so%head% , pa.pa_exp% , ar.ra_customers'. The owner part is mandatory.
factor	The factor for calculating the histograms.
percent	Sample percent.
degree	Degree of parallelization.

VERIFY_STATS Procedure

For a given list of comma–separated tables, or for a given schema name, this procedure reports the statistics in the data dictionary tables for the tables, indexes, and histograms.

Syntax

```
FND_STATS.VERIFY_STATS (
   schemaname         VARCHAR2 DEFAULT NULL,
```

```
tablelist          VARCHAR2 DEFAULT NULL,
days_old           NUMBER DEFAULT NULL,
column_stat        BOOLEAN DEFAULT FALSE
);
```

Parameters

schemaname	The name of a schema. If `schemaname` is `NULL` (which is the default), then the procedure reports on the given list of tables.
tablelist	A comma–separated list of tables. If the tablename is not of the form <schema>.<tablename> then the schema is the value of the `schemaname` parameter. If the `tablelist` is `NULL` (the default), then the procedure reports on all the tables for the specified `schemaname`.
days_old	Only reports those tables whose statistics are older than the `days_old` number of days. The default is `NULL`, which means the procedure will report on all the tables.
column_stat	If `TRUE`, the procedure reports column statistics for the `export_table_stats` table. The default is `FALSE`.

FND_CTL Package

FND_CTL contains a single procedure FND_SESS_CTL which provides an easy way of manipulating some session level parameters. This is a database procedure that is invoked from the system profile option "Initialization SQL Statement – Custom" to control the session level parameters for an application user's session. See: "Initialization SQL Statement – Custom" profile option in the Profiles appendix, page A – 29.

Parameters for FND_SESS_CTL

olpt_opt_mode Optimizer mode for all OLTP sessions (non–concurrent manager sessions).

Valid values are `ALL_ROWS`, `FIRST_ROWS`, `CHOOSE`, and `RULE`.

conc_opt_mode Optimizer mode for all concurrent sessions.

Valid values are `ALL_ROWS`, `FIRST_ROWS`, `CHOOSE`, and `RULE`.

trace_opt The `SQL_TRACE` option.

Valid values are `TRUE` and `FALSE`.

timestat The `TIMED_STATISTICS` option. Set to `TRUE` or `FALSE`.

logmode Determines whether to log the session in the table `FND_TRACE_LOG`.

Valid values are `LOG` or `NULL`.

event_stmt Any other event settings or alter session commands. The value must be a valid SQL statement.

For example, to get the bind values, set the event 10047 as follows:

```
'ALTER SESSION SET EVENTS ='||''''||'
10046 TRACE NAME CONTEXT FOREVER,
LEVEL 4 '||''''
```

Examples

The following examples illustrate controlling the session parameters using FND_SESS_CTL in conjunction with the system profile option "Initialization SQL Statement– Custom."

The following statement uses FIRST_ROWS for OLTP sessions, ALL_ROWS for concurrent sessions, and turns the trace option on:

```
BEGIN FND_CTL.FND_SESS_CTL('FIRST_ROWS',
   'ALL_ROWS','TRUE','TRUE','','''); END;
```

The following statement does the same as the above statement and includes an event statement:

```
BEGIN FND_CTL.FND_SESS_CTL('FIRST_ROWS','ALL_ROWS',
   'TRUE','TRUE','','ALTER SESSION SET EVENTS
   ='||''''||' 10046 TRACE NAME CONTEXT FOREVER,
   LEVEL 4 '||''''); END;
```

The following statement sets the parameter complex_view_merging:

```
BEGIN FND_CTL.FND_SESS_CTL('','','','','',
   'ALTER SESSION SET "_complex_view_merging" =
   true'); END;
```

The following statement turns logging on: For this option the log table is FND_TRACE_LOG .

```
BEGIN FND_CTL.FND_SESS_CTL('','','','','LOG','');
   END;
```

FND_TRACE_LOG is a transaction table that contains the LOG information when the LOG mode is turned on. This table should be purged periodically.

CHAPTER

10 User Profiles

This chapter tells you about the role of user profiles in Oracle Applications, including an overview of user profiles and a detailed description of the form you use to set user profile values for your user community.

The Overview of User Profiles includes definitions of key concepts, and an explanation of how to set site, application, responsibility, and user profile options in Oracle Applications.

Overview of Setting User Profiles

A user profile is a set of changeable options that affect the way your application looks and behaves. As System Administrator, you control how Oracle Applications operate by setting user profile options to the values you want. You can set user profile options at four different levels: site, application, responsibility, and user.

Major Features

Set of Books

You can further control security by assigning a set of books to a responsibility, application or site. A set of books is a company or group of companies within Oracle Applications that share a common account code, calendar, and functional currency.

Setting User Profile Options

As System Administrator, you use the System Profile Values window to set profile options for your user community. If you change a user profile option value, your change takes effect as soon as your users log on again or change responsibilities. See: System Profile Values Window: page 10 – 6.

When you set a user profile, you provide Oracle Applications with standard information (such as printer) that describes a user, responsibility, application, or site. You can set values for user profile options at each profile level.

Site Option settings pertain to all users at an installation site.

Application Option settings pertain to all users of any responsibility associated with the application.

Responsibility Option settings pertain to all users currently signed on under the responsibility.

User Option settings pertain to an individual user, identified by their application username.

The values you set at each level provide run–time values for each user's profile options. An option's run–time value becomes the highest–level setting for that option.

When a profile option may be set at more than one level, site has the lowest priority, superseded by application, then responsibility, with user having the highest priority. For example, a value entered at the site level may be overridden by values entered at any other level. A value entered at the user level has the highest priority, and overrides values entered at any other level.

For example, for a given user, assume the printer option is set only at the site and responsibility levels. When the user logs on, the printer option assumes the value set at the responsibility level, since it is the highest–level setting for the option.

Suggestion: As System Administrator, you should set site–level option values before specifying profile options at the other three levels after the installation of Oracle Applications. The options specified at the site–level work as defaults until the same options are specified at the other levels.

Application users may use the Personal Profile Values window to set their own personal profile options at the user level. Not all profile options are visible to users, and some profile options, while visible, may not be updated by end users.

See Also

Setting Your Personal User Profile, *Oracle Applications User's Guide*

Using Profile Options as a Parameter or Segment Default Value

Profile option settings may be used as a default value for a concurrent program's parameter or flexfield's segment. The following table lists the forms you may use to enter a profile option whose setting serves as a default value.

To use a profile option's setting as a default value, navigate to the form's Default Type field and select *Profile*. Then, enter the profile option's internal name in the Default Value field.

Form	Window	Field
Concurrent Programs	Parameters	Parameter Detail region – Default Type / Default Value
Request Set	Report Parameters	Default Type / Default Value
Key Flexfield Segments	Segment	Validation Information region – Default Type / Default Value
Descriptive Flexfield Segments	Segment	Validation Information region – Default Type / Default Value

Table 10 – 1 (Page 1 of 1)

Examples of User Profile Options

Example #1

Your Accounts Payable department recently purchased a printer, and you want all the reports from that department to print on that new printer. You simply change the "Printer" profile option for Oracle Payables to reflect the purchase of the new printer.

Suggestion: Example #2 highlights the importance of default profile options. If an application user of Oracle Payables or a responsibility associated with Oracle Payables already has a value specified for the printer profile option, that value will override the value you set at the application level. We suggest you first set user profile options at the site level, and then work your way up the hierarchy to other levels when appropriate. User profile options not set at one level default to the user profile options set at the next lower level.

Example #2

You can further control security within Oracle Applications by assigning a set of books to a responsibility, application or site using the GL Set of Books ID profile option. By assigning a set of books to a responsibility, you control not only the forms and functions that the responsibility can access, but the specific set of books as well.

See your Oracle Applications product reference guide for information on how to define a set of books.

User Profile Option Values Report

This report documents user profile option settings. Use this report when defining different profile option values for several responsibilities, or users, or for different applications.

Report Parameters

Profile Option Name

Choose the profile option name whose values you wish to report on. If you do not select a profile option name, then this report will document all profile options.

User Name

Choose the name of a user whose profile option values you wish to report on.

Application Short Name

Choose the name of an application whose profile option values you wish to report on.

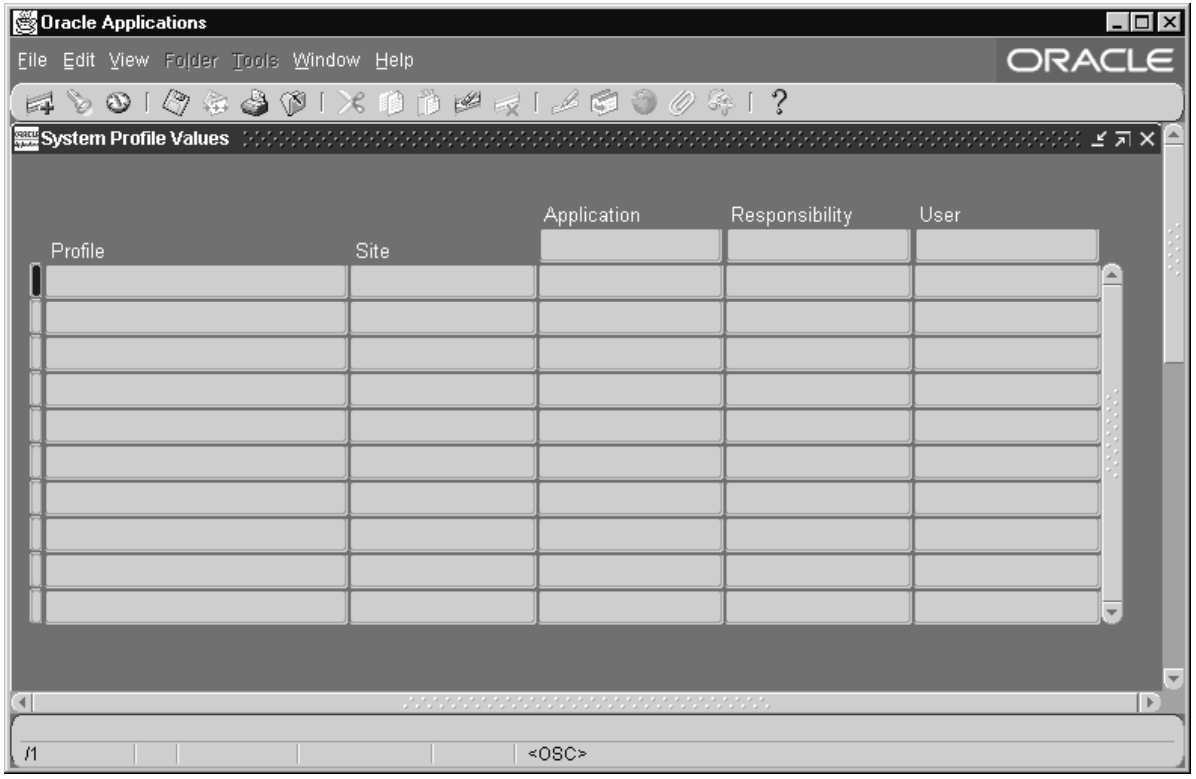
Responsibility Name

Choose the name of a responsibility whose profile option values you wish to report on.

Report Headings

The report headings display the specified report parameters and provide you with general information about the contents of the report.

System Profile Values Window



Use this window to view and set profile option values.

You can view and set profile options at the site, application, responsibility, and user levels. Your settings affect users as soon as they sign on or change responsibility. See: Overview of Setting User Profiles: page 10 – 2.

Profile Values Block

Set values for profile options at one or more levels. Each value overrides those set to its left. For example, a User Value setting overrides a Responsibility Value setting, which overrides an Application Value setting, which overrides a Site Value setting.

If you have a profile option value that is no longer valid, you will see an LOV for the field instead of the value.

Profile

This field displays the name of a profile option.

Site

This field displays the current value, if set, for all users at the installation site.

Application

This field displays the current value, if set, for all users working under responsibilities owned by the application identified in the Find Profile Values block.

Responsibility

This field displays the current value, if set, for all users working under the responsibility identified in the Find Profile Values block.

User

This field displays the current value, if set, for the application user identified in the Find Profile Values block.

Suggestion: You should set site–level default values for any required options after installation of an application. If you do not assign a particular profile option at any of the four levels, that option does not have a default value and may cause errors when you use forms, run reports, or run concurrent requests.

Find System Profile Values Block

Specify the level or levels at which you wish to view and set profile option values.

Display

You can view the values set for your installed profile options at each of four levels:

- Site, which affects all users at an installation site.
- Application, which affects all users working under responsibilities owned by a particular application.
- Responsibility, which affects all users working under a specific responsibility.

- User, which affects a unique application user.

You can find the values for all profile options that include a specific character string, such as “OE:” for Oracle Order Entry. You can also display only profile options whose values are currently set.

Site

Check the Site check box if you wish to display the values for profile options at an installation site.

Application

Select an application if you wish to display profile option values for responsibilities owned by that application.

Responsibility

Select a responsibility if you wish to display profile option values for a specific responsibility.

User

Select an application user if you wish to display profile option values for a specific user.

Profile

Enter the name of the profile option whose values you wish to display. You may search for profile options using character strings and the wildcard symbol (%). For example, to find all the profile options prefixed by “Concurrent:”, you could enter “Conc%” and press the Find button.

Profiles with No Values

Select whether to display all profiles, including those without currently set values. If this check box is unselected, only profiles with current values are retrieved.

Find

Choose the Find button to display all profile options, or the profile options you are searching for, at the level or levels you specified.

CHAPTER

11 Administering Process Navigation

This chapter describes the Process Navigator, a feature which provides you with diagrams of each of your business processes as a whole and of the individual steps in each process. The Process Navigator also provides direct access to the form asssociated with each step in a process.

The major topics include:

- Modifying your Menu
- Creating Process Navigator Processes

Overview of Process Navigation

A ”process” is a series of actions taken to achieve a specific result. The Process Navigator utilizes Oracle Workflow to depict each of your business processes with a workflow diagram. A process diagram contains an icon for each step in the process; each icon acts as a visual cue and as an access point for the actual form associated with each step. You can navigate to any form involved in the process simply by clicking on the appropriate icon.

What is Oracle Workflow?

Oracle Workflow allows you to define business processes using a drag–and–drop designer. You can route relevant information to decision makers, automate processes, deliver electronic notifications to users in a given workflow, and monitor your processes as they are implemented. You can display any workflow diagram as a process in the Process Navigator. See: *Oracle Workflow Guide.*

What are Seeded Processes?

A seeded process is one that is delivered to you ready to use. Oracle Applications Release 11*i* includes several seeded business processes which you can use as they are.

Modifying Your Menu

Before you begin, you should be aware that simply referencing a form from a process does not provide the required permissions for the responsibility to access the forms in the process. Form Functions for each form referenced from a process must be added to the Function Security Menu for the responsibility. If the Form Function is not accessible, the user will receive an error when attempting to access the form from the process in the Process Navigator.

See: Form Functions Window

See: Menus Window

Creating Process Navigator Processes

You must use Oracle Workflow Builder to create or customize any of the processes that are displayed in the Process Navigator. These instructions describe how to create new processes for the Process Navigator.

The following table lists the terms / components of a Process Navigator process and the corresponding components in Oracle Workflow Builder that define them.

Process Navigator Component	Description	Controlling Oracle Workflow Builder Component(s)
Process	The diagram that appears in the Process Navigator.	Process activity and process diagram
Process description	A description of the displayed process.	Process activity
Step	An icon in the process, which takes you directly to an Oracle Applications form when you double–click on it.	Notification activity
Step description	A description of the selected process step.	Message
Form associated with a step.	The Oracle Applications form that appears when you double click on a step in a Process Navigator process.	Form–type Message attribute

Table 11 – 1 (Page 1 of 1)

Note: The following procedures do not address most of the functionality of Oracle Workflow Builder, but are tailored to creating processes for the Process Navigator. The Oracle Workflow Builder is a tool used to design workflow processes. Workflow processes can range from routing documents through an approval process to setting up your Oracle Applications. See: the *Oracle Workflow Guide.*

Creating Process Navigator Processes

To create a new process for the Process Navigator, you must first create the necessary components in Oracle Workflow Builder. The components you create make up the process definition, which is then saved to the database or to a flat file. The Process Navigator then reads the process definition from the database to display the process and its information and provide you access to the related Oracle Applications forms.

▶ Creating a New Process Navigator Process

1. Open Oracle Workflow Builder.
2. Create an item type.—an item type is a repository that will contain all the components associated with the process you wish to build. See: To Create an Item Type: *Oracle Workflow Guide.*
3. Create an Item Attribute of type role, whose internal name is USER_NAME. See: To Define and Item Type or Activity Attribute: *Oracle Workflow Guide.*

   Note: Enter a new display name for the message using the format <Verb><Form Title>. If the form title already contains a verb, then simply use the form title as the display name. If the form title does not contain a verb, then consider using one of the following verbs:

   `Define / Assign / Run / Load / Convert / Open / Set / Generate / Review`

4. Create a message to describe the task that is to be accomplished by a Process Navigator process step. See: To Create a Message: *Oracle Workflow Guide.*
5. Create a form–type for the message. The seeded processes generally assign these message attributes an internal name of Open Form, but this is not required. See also: To Define a Message Attribute: *Oracle Workflow Guide.*
6. Create a notification activity to represent a Process Navigator process step. See: To Create a Notification Activity: *Oracle Workflow Guide.*
7. Create a process activity to represent a Process Navigator Process. See: To Create a Process Activity: *Oracle Workflow Guide.*

   Note: Enter a display name for your process. This name appears in the Process Navigator's process list. The naming convention for the process should be a functional name followed by the word "Process."

   Enter a description for your process. The description appears when a user selects a process in the Process Navigator, For Oracle Workflow Builder Release 2.5, the description is limited to 240 characters.
8. Draw the Process Diagram. Once you create a process activity, you can draw the process diagram that is associated with it. The process diagram is what appears when you display a process in the Process Navigator. See: Diagramming a Process: *Oracle Workflow Guide*

Note: The Performer type of the Notification Activity you include in a process diagram for the Process Navigator must be set to the item attribute USER_NAME..

9. Save your changes. When you save your work to a database, you actually save everything in the current data store that has been modified. When you save your work to a flat file, you actually save everything in the current data store to the file.

   Note: It is highly recommended that for new processes created for the Process Navigator that you always save a copy of your workflow process definition as a flat file and check that file into a source control system to maintain a working version of your process definition. Then when you want to update your definition in the database, you can pull up the flat file and save it directly to the database. Avoid using the process definition stored in your database as your source controlled version, as others with access to the database can update the definition.

10. Enable access to your process

Enable access to your process

Before a process may be accessed in the Navigator you must complete the following two steps. Create a new function for your process in the Form Functions window, and add your process to a responsibility by adding the function you just created, to the responsibilities top menu in the Menus window.

▶ **Create a function for your Process**

1. As the System Administrator navigate to the Form Functions window (Application–>Function).
2. Enter a Function Name for your process using the format:

   `<app>_<processname>`

   Where <app> can be any application short name and <processname> is the internal name you entered when you created your process activity.
3. Enter a User Function Name. The name you enter here appears in the Navigator.
4. Enter ”PROCESS” as your function type.
5. In the tabbed region ’Form’ use the following format to enter a value in the Parameters field:

   `<itemtype>:<processname>`

6. Save your work. No other fields are required to create your process function.

See: Form Functions Window

▶ **Add your function to a menu**

In order for a user to access a process in the Navigator, the process must be added to a menu referenced by the user's responsibility. To determine the menu referenced by a particular responsibility use the Responsibilities window (Security–>Responsibility–>Define).

1. As the System Administrator navigate to the Menus window (Application–>Menu).
2. Use the Find window to access the desired menu.
3. In a new row use the LOV to select the function you created for your process in the Functions field. You may optionally enter a description for the function. DO NOT enter any other fields. The Sequence field is automatically populated and the Navigator Prompt and Submenu fields must remain empty.
4. Save your work.

See: Menus Window

Access the Seeded Processes from the Database

To access the seed processes from the database, you need to first install Oracle Applications production Release 11*i* and you need to install Oracle Workflow Builder Release 2.5 or greater on your client PC.

▶ **To access the seed processes**

1. Run the Oracle Workflow Builder from you client.
2. Select Open from the File menu.
3. Choose Database.
   - For User, enter the FNDNAM of your database
   - For Password, enter the FNDNAM password of your database
   - For Connect, enter the alias for your database which should be entered in your tnsnames.ora file under the following directory on your client:

     ```
     Local drive (i.e. "C"):orant\network\admin
     ```

     Note: If you are using Windows 95, then the "orant" should be replaced with "orawin" in the directory structure above.

4. In the Show Item Types window, select the item type(s) associated with the seeded processes you wish to view. To select more than one item type, hold down your control key as you select the item types. Choose Show, and then choose OK.

▶ Finding the Form Function Name

1. Log into Oracle Applications and navigate to the form of interest.
2. Choose About Oracle Applications... from the Help menu. Scroll down to Form Information and make note of the form name.
3. Now log into Oracle Applications using the Implementation System Administration responsibility and navigate to /Application/Form. Within the Form window, query for the form name you just made a note of in the Form field.
4. Make note of the value in the User Form Name field once your query completes.
5. Close the Form window and navigate to /Application/Function. Within the Function window, query for the User Form Name value that you just made a note of in the Form field.
6. The value that is returned in the Function field is the form function name that you need to associate a Process Navigator process step to a form.

CHAPTER

12 Document Sequences

This chapter explains how to assign unique numbers to documents you create using Oracle Applications. Each time you enter a transaction, you create a document.

- For example, when you enter a payment, you create a payment document. Or when you enter an invoice, you create an invoice document.

By assigning unique numbers to documents, you can account for each transaction you enter and the document that accompanies it.

This chapter begins with an essay explaining what document sequences are and how they work in Oracle Applications.

Following the essay are descriptions of the forms you use to:

- Define sequences to number your documents.
- Define document categories to group documents together.
- Assign sequences to documents, defining which documents you will number using a particular sequence.

What is a Document Sequence?

A document sequence uniquely numbers documents generated by an Oracle Applications product. Using Oracle Applications, you initiate a transaction by entering data through a form and generating a document, for example, an invoice. A document sequence generates an audit trail that identifies the application that created the transaction, for example, Oracle Receivables, and the original document that was generated, for example, invoice number 1234.

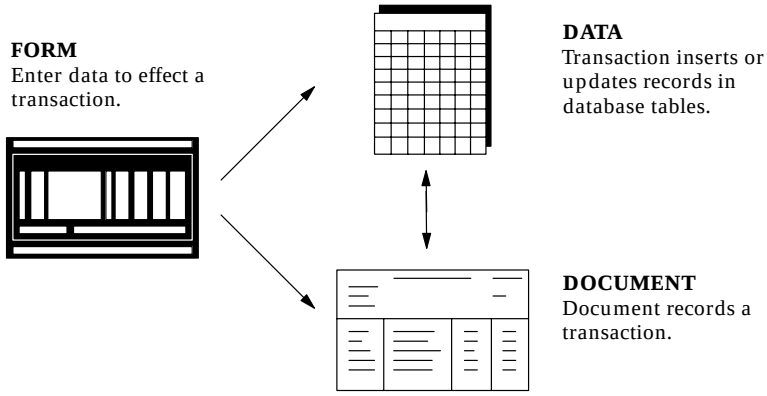
Document sequences can provide proof of completeness. For example, document sequences can be used to account for every transaction, even transactions that fail.

Document sequences can also provide an audit trail. For example, a document sequence can provide an audit trail from the general ledger into the subsidiary ledger, and to the document that originally affected the account balance.

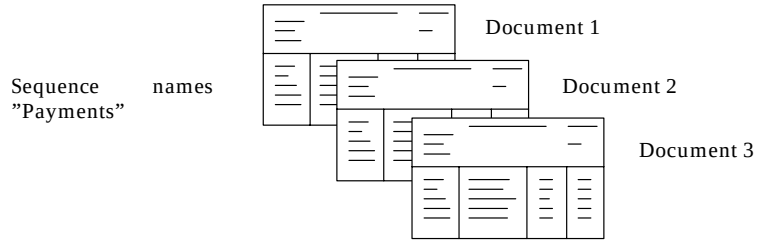
Document sequences generate audit data, so even if documents are deleted, their audit records remain.

Figure 12 – 1

Transactions generate documents. For example, recording payments generates payment documents.



A sequence defines how documents are numbered; what the first number in the sequence is, and whether numbers are generated automatically or entered manually.



Defining a Document Sequence

To define a sequence, you select a sequence name and an application to "own" the sequence.

- A sequence can number documents stored in database tables belonging to its owning application.
- Audit records for a sequence are stored in the application's audit table, titled *Application Short Name*_DOC_SEQUENCE_AUDIT. For example, the audit table for a sequence owned by Oracle Payables is AP_DOC_SEQUENCE_AUDIT.

Attention: Your database administrator must grant access to an application's audit table for all ORACLE usernames associated with responsibilities that will use the sequence (responsibilities that access forms using the sequence).

You can set start and end dates for when the sequence is available. The start date defaults to the current date. By default, there is no end date, so the sequence definition does not expire.

You can choose whether a sequence numbers documents automatically, or accepts numbers manually entered by a user.

Automatic, Gapless, and Manual Numbering

Automatic numbering assigns a unique number to each document as it is generated. Automatic numbering is sequential by date and time of creation.

Gapless numbering also automatically generates a unique number for each document, but ensures that the document was successfully generated before assigning the number. With Gapless numbering, no sequence numbers are lost due to incomplete or failed document creation.

Attention: We recommend that you choose this type only when gapless numbering is essential, as it may affect the performance of your system.

Manual numbering requires a user to assign a unique number to each document before it is generated. With manual numbering, numerical ordering and completeness is not enforced. Users can skip or omit numbers when entering the sequence value.

Automatic Numbering – Initial Value and Message Display

If you define a sequence to automatically number documents, you can:

- Enter an initial value for your sequence. The default is "1".
- Choose whether you want to display a message when a document is generated, telling the user the name of the sequence, and the sequence value (document number).

Two examples of sequence definitions, one with automatic numbering and the other with manual numbering, are represented in the table below..

Field in Document Sequences form	EXAMPLE 1 Sequence with Automatic Numbering	EXAMPLE 2 Sequence with Manual Numbering
(Sequence) NAME	AUTOPAY	ADJUSTMENTS
(Owning) APPLICATION	ORACLE PAYABLES – Sequence can number documents stored in an Oracle Payables database table.	ORACLE RECEIVABLES – Sequence can number documents stored in an Oracle Receivables database table.
EFFECTIVE DATE – START	CURRENT DATE & TIME (Default value)	OCT–01–94 User defines sequence "Adjustments" not to be available until Oct 1, 1994.
EFFECTIVE DATE – END	Field left blank. Sequence does not expire.	DEC–31–94 User defines sequence "Adjustments" to no longer be available after Dec 31, 1994.
(Numbering) TYPE	AUTOMATIC – Unique numbers are automatically generated in sequence. GAPLESS No omissions or gaps in numbers are possible, due to a rollback if the document creation is unsuccessful.	MANUAL – User must enter a unique number before transaction can be completed, and document is generated. User may skip or omit numbers.
INITIAL VALUE	1 (Default value) User could enter their own initial value, for example, 5700.	**Not Available when numbering type is Manual.**
MESSAGE	YES – When a document that is automatically numbered is created, a message displays the sequence name and the sequence value (document number).	**Not Available when numbering type is Manual.**

Table 12 – 1 (Page 1 of 1)

Defining Document Categories

Document categories organize documents into logical groups.

- A document category (also called a document type) is one of the rules you use to define which documents a sequence assigns numbers to.
- You can separately number each document category by assigning a different sequence to each category.

A document category identifies the database table that stores documents resulting from transactions your users enter.

- When you assign a sequence to a category, the sequence numbers the documents that are stored in a particular table.

Use categories to more precisely classify your documents. For example, you can categorize accounts receivable invoices into several different categories, such as:

- Chargebacks
- Deposits
- Guarantees
- Debit Memos
- Credit Memos
- Sales Invoices
- Customer Service Invoices

Similarly, you can categorize accounts payable or purchase invoices into several different categories, such as:

- Standard
- Expense Report
- Prepayment
- Interest
- Credit Memo
- Debit Memo

Assigning a Document Sequence

Before you can assign a sequence to number documents, you must define which documents are to be numbered.

Sequences versus Assignments

Defining a sequence is different from assigning a sequence to a series of documents.

- A sequence's definition determines whether a document's number is automatically generated or manually entered by the user.
- A sequence's assignment, that is, the documents a sequence is assigned to, is defined in the Sequence Assignments form.

Defining Documents for numbering by Assigned Sequences

You specify a combination of four rules that define any given document for assignment to a specific sequence name.

You can then assign a different (numbering) sequence to each document definition.

The four rules, that when combined, define what documents a selected sequence assigns numbers to are:

Application — You select the application that generates the documents you wish to number.

For example, to number sales invoices, you select Oracle Receivables.

Category — You select a document category to identify a logical subset of documents.

For example, if you do not want to number all invoices in Oracle Receivables, you can choose to number only the category of sales invoices.

A category identifies a table that stores transactions entered (documents generated) using an Oracle Application.

The Category values you can choose from to define a document are dependent upon the application you select.

Set of Books — You select the chart of accounts for your business that is affected by the documents you wish to number. You may optionally enable this rule through the Document Flexfield.

Method — You select the method that your documents are entered, automatic or manual. You may optionally enable this rule through the Document Flexfield.

Automatic is when a concurrent process, such as an external program, is set up to enter transaction data into an Oracle Application.

Manual is when a document is manually entered using a form in an application.

Assignment of Sequences to Document Definitions

For each unique document definition there can only be one active sequence assignment. A document definition consists of the Application, Category, and the optional Document Flexfield segments Set of Books and Method

Attention: When assigning sequences to a document definition, each active sequence can be assigned to only one unique combination of application and category (i.e., application table).

Active Assignments and Active Sequences

An active sequence assignment does not have a post dated end date. That is, the assignment's end date is not before the current date.

- An active sequence *assignment* either has no end date, or an end date that is not before the current date.
- A sequence assignment and its dates of effectivity are defined on the Sequence Assignments form.

A sequence *definition* must be active as well. That is, the sequence definition's end date (as opposed to its assignment's end date) must not be before the current date.

- A sequence definition and its dates of effectivity are defined on the Document Sequences form.

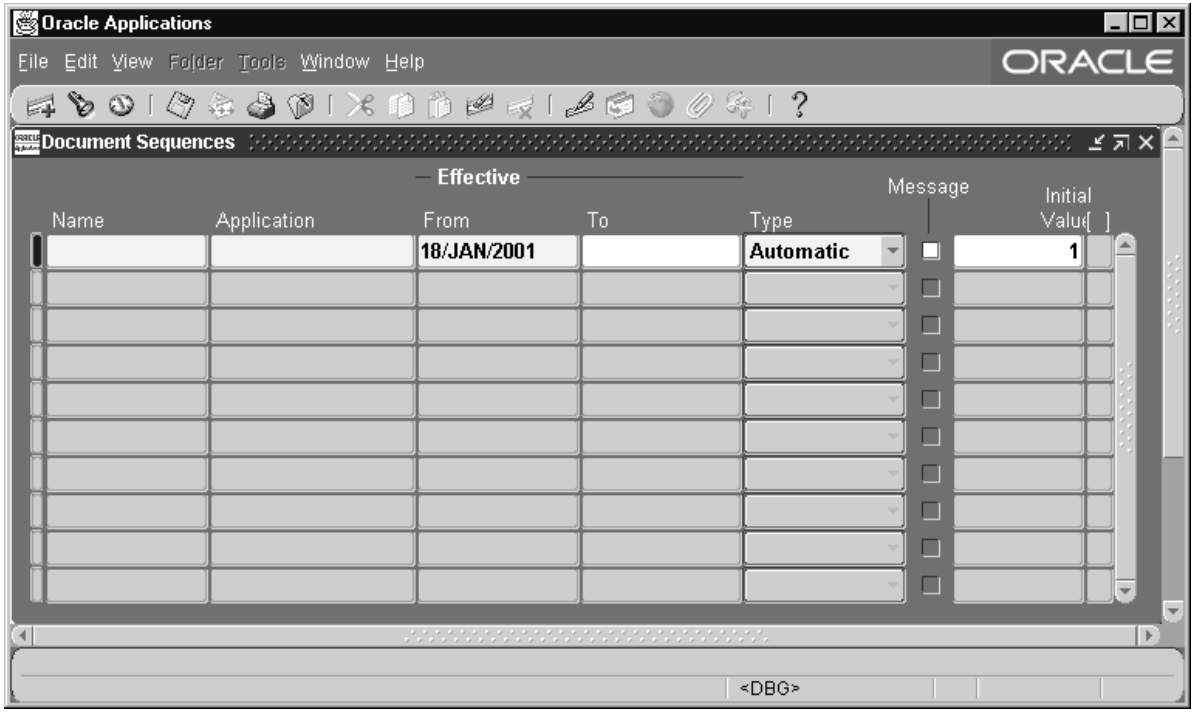
When you define a document sequence, you give the sequence a name, and define how the sequence numbers each document by:

- Choosing whether numbers are automatically generated in sequence, or entered manually by the user.
- Entering the initial value or first number in the sequence.

Document Numbering vs. Document Entry

Do not confuse the type of document numbering a sequence employs, which can be automatic or manual, with the method of entering documents, which is also defined as either automatic or manual.

Document Sequences Window



Name a new document sequence and define how the sequence numbers each document.

A document sequence uniquely numbers documents generated by an Oracle Applications product (for example, invoices generated by Oracle Receivables). Using the Sequence Assignments window, you assign your sequence to number only those documents that satisfy rules you define.

Document sequences ensure that every document your users create can be accounted for. See: Sequences Assignments: page 12 – 14.

Document Sequences Block

Define the name, type of numbering scheme, effective dates, and initial value for your document sequence.

Name

Once entered, sequence names cannot be changed.

Application

Once selected, the application associated with your sequence cannot be changed.

Audit records for your sequence are stored in the application's audit table, titled *Application Short Name*_DOC_SEQUENCE_AUDIT. For example, the audit table for a sequence owned by Oracle Payables is AP_DOC_SEQUENCE_AUDIT.

Effective From/To

Enter the dates on which your document sequence takes effect / is no longer enabled. The Start on field automatically defaults to the current date, and once a sequence is defined, the start date cannot be changed. If you leave the End on field blank, your document sequence does not expire; and if you enter an end date and define your sequence, the end date cannot be modified later. If there is no end date defined and there are no active assignments for a sequence, you can disable the sequence by entering the current date as the end date. Once disabled, a sequence cannot be reactivated.

Type

Once defined, you cannot change the type of document numbering sequence.

Automatic Sequentially assigns, by date and time of creation, a unique number to each document as it is generated.

Manual Manual numbering requires a user to assign a number to each document before it is generated.

You must enter unique values. However, please note that numerical ordering and completeness is not enforced.

Attention: The Automatic–By–User type is currently not supported, and is reserved for a future version of Oracle Applications.

Warning: The Gapless Numbering type is valid only in the context of certain localizations. We recommend that you choose this type only after consulting with Worldwide Support, as it may affect the performance of your system.

Message

Check the Message check box if you want each document to display a message (in the message line near the bottom of the screen) informing the user of the sequence name and value (number).

This check box only applies to sequences with the automatic type of numbering. Messages appear only on form displays, and are not written to a request's log file.

Once a sequence is defined, the message choice cannot be changed.

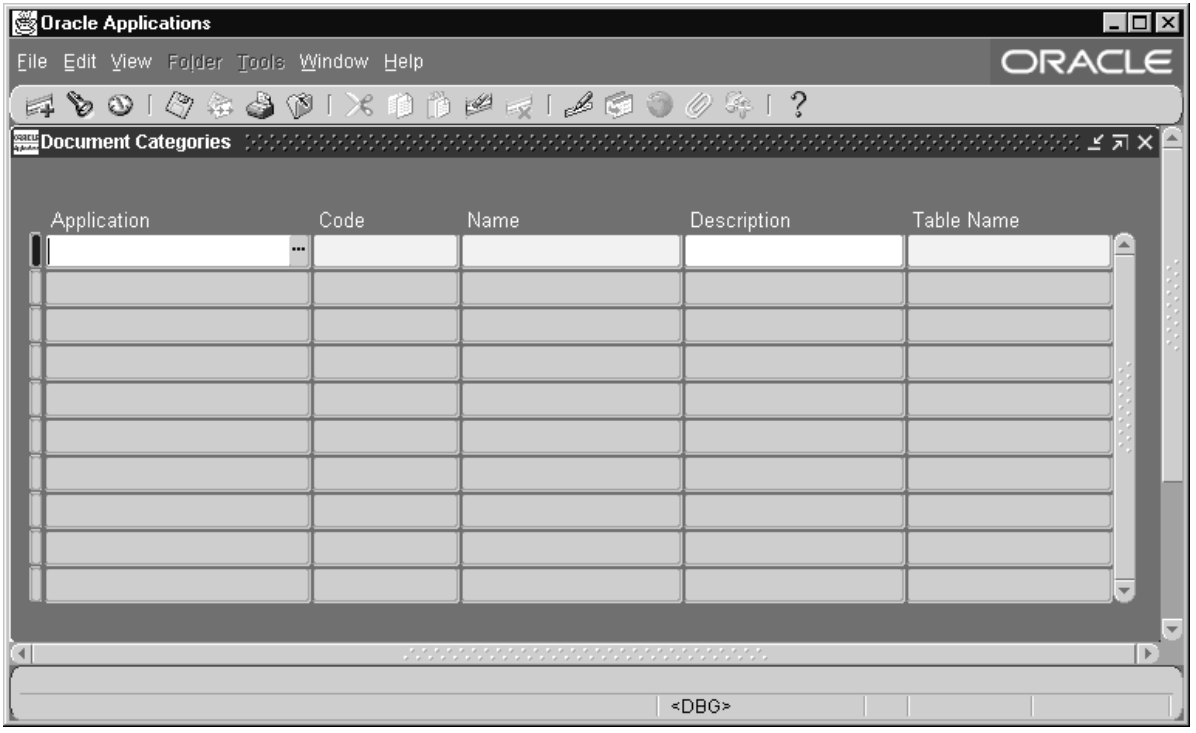
Initial Value

Enter a value for the first document in your sequence. This field only applies to sequences with automatic or gapless numbering type. The maximun sequence value is 1.0e+27.

If you leave this field blank, the first document is automatically assigned a value of "1".

Once a sequence is defined, this initial value cannot be changed.

Document Categories Window



Define categories for your documents in order to divide your documents into logical groups, which you can number separately by assigning different sequences.

A document sequence uniquely numbers each document the sequence is assigned to.

- Using the Sequence Assignments form, you assign your sequence to number only documents that satisfy rules you define.
- Document category, or type, as it may be titled on some forms, is one of the rules that define which documents a sequence assigns numbers to.

Each category identifies a table that stores documents resulting from transactions your users generate.

- When you assign a sequence to a category, the sequence numbers the documents that are stored in the table.

Document Categories Block

Name a document category and associate a table with the category.

When you enter this block, Oracle automatically queries for any existing document categories.

Application

Once a category is defined, you cannot change the choice of application. Only tables belonging to the selected application can be assigned to a category.

Code

Category code must be unique within an application. Once a category is defined, you cannot update its code.

Name

You can update the name, if you wish. For example, if the category name is predefined, you can change the name to a more familiar value.

Description

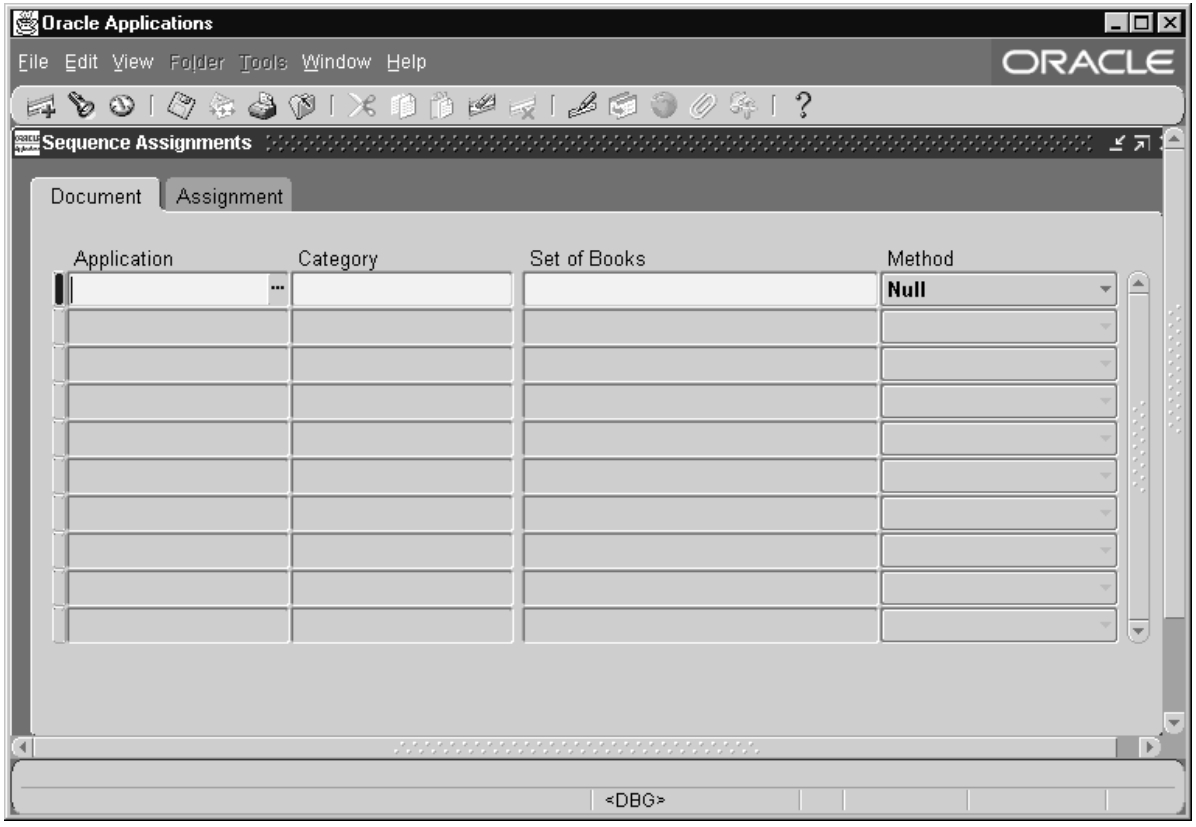
You can update the description, if you wish. For example, if the category description is predefined, you can change the description to a more familiar value.

Table Name

Select the name of the table that stores the documents you want to identify by your category.

- When the sequential numbering feature checks for completeness or generates a report, it locates the category's documents in the table.
- Only tables belonging to the application associated with the category can be chosen.
- Once a category is defined, you cannot change the choice of table.

Sequence Assignments Window



Define which documents a document sequence can number, and then assign the document sequence to your definition.

A document sequence numbers documents generated by an Oracle Applications product (for example, invoices generated by Oracle Receivables).

Documents can be defined by the application that generates them and their category (the table in which they are stored). Additional fields appear when the optional rules for defining documents (Set of Books and Method of document entry) are enabled.

Besides entering a document definition and assigning a sequence to it, you can, if you wish, enter effective dates for the assignment.

Prerequisites

- Define the document sequence using the Document Sequences window. See: Document Sequences: page 12 – 9.

Sequence Assignments Block

Specify documents by the application that generates them and the category of the document (table where the documents are stored). You can also include in your document definition the set of books they affect, and the method by which the document is entered.

Once a document definition is entered, you select a sequence to assign it to, and if you wish, enter effective dates for the assignment.

There can only be one active sequence assigned to each unique combination of Application, Category, Set of Books, and Method. The last two criterion are optional, and are set in the Document Flexfield.

However, the same sequence, the same numbering scheme, and initial value can be assigned to more than one combination of Application, Category, Set of Books, and Method as long as the Application and Category remain the same.

Application Select the application that generates the documents you wish to number.

For example, to number sales invoices, you select Oracle Receivables.

Category Select a document category to identify a logical subset of documents.

For example, if you do not want to number all invoices in Oracle Receivables, you can choose to number only the category of sales invoices.

Assignment Region

Since the effective dates for an assignment must fall within the sequence's start and end dates, the list of available sequences depends on the start and end dates specified for the assignment.

Start Date/End Date

Enter the dates on which the sequence assignment to your document definition takes effect / is no longer enabled. The Start Date field automatically defaults to the current date, and once a sequence assignment is defined, the start date cannot be changed.

If you leave the End Date field blank, your sequence assignment does not expire; and if you enter an end date and define your sequence assignment, the end date cannot be modified later.

If there is no end date defined and there are no active assignments for a sequence, you can disable the sequence assignment by entering the current date as the end date. Once disabled, a sequence assignment cannot be reactivated.

Sequence

Select a sequence to assign to your document definition. The sequence's application and the document's application must be the same.

Once you define a sequence assignment, the sequence name cannot be updated later.

If you want to disable the sequence assignment and assign a new sequence to the document definition (Document Flexfield combination), you must first, enter an End Date to disable the current sequence assignment, then, second, create a new record (row) for the new assignment.

Document Flexfield

The Document Flexfield may consist of none, one or two segments.

Set of Books Select the chart of accounts for your business that is affected by the documents you wish to number.

Method Select the method that your documents are entered, automatic or manual.

Automatic is when a concurrent process (e.g., an external program) enters transaction data into an Oracle Application, which generates documents.

Manual is when a document is manually entered using a form in an application.

Once defined, a Document Flexfield definition cannot be updated. You may not define additional segments for the Document Flexfield.

Attention: To enable this descriptive flexfield, use the Descriptive Flexfield Segments window. Select the application *Application Object Library*, and the title "Document Flexfield". Be sure to unfreeze the flexfield; then, navigate to the Segments window and enable the segments. Freeze your flexfield after you set it up, and save and compile the new definition.

See: Defining Descriptive Flexfields Structures
(*Oracle Applications Flexfields Guide*)

CHAPTER

13 Developer Tools

This chapter provides information for a system administrator about tools applications developers can use in Oracle Applications.

Developer Tools

There are several tools to help developers create and debug custom forms and programs. These include the Custom Library, Work Directory and the Log/Trace Service. This section provides an overview of these tools for the system administrator.

The CUSTOM library allows extension of Oracle Applications without modification of Oracle Applications code. For information on the CUSTOM library, see the *Oracle Applications Developer's Guide*.

The Work Directory allows a developer to use a custom form from within Oracle Applications, while other users use the standard form.

Work Directory

The Work Directory feature enables a developer, support consultant, or other technical specialist to test modifications to forms in Oracle Applications without affecting users of the same code tree.

Using the Work Directory, a user can be logged into an Oracle Applications system but access a version of a form that is not within the standard $PROD_TOP/forms/LANG directory. For example, an on–site developer can test out a new version of a custom form without affecting other testing on the system.

You can use the Work Directory feature for alternate files of forms only.

Implementation

To implement this feature, set up a directory to hold the alternate files for your forms.

To use an alternate file, set the profile option FND:Override Directory with the path for the directory containing the alternate file.

Attention: This profile option should usually be set at the User level only. If you set FND:Override Directory at the Site level, for example, you will affect all users at that site using the particular forms.

Using the Work Directory

After you have created the alternate directory and set the profile option FND: Override Directory with the appropriate value, you can use files in that alternate directory.

In searching for the appropriate file path for a form, Oracle Applications will first check to see if the profile option FND: Override Directory is set and if a given file exists in the specified directory. If the above two conditions are true then the alternate file is used. If the profile option is not set or if the necessary file does not exist in that directory, then the default (usual) file path is used.

> **Note:** The Oracle Applications Navigator caches the paths to forms that have been successfully opened. If the standard form has been opened, then that form will be used for the remainder of the session. To switch to a different file path, you must exit and restart Oracle Applications.

To provide a visual indication that an alternate form is in use, the developer of the form should specify a different version number for the form in the PRE–FORM trigger. This version number appears during runtime using Help > About Oracle Applications. For more information, see: *Oracle Applications Developer's Guide.*

Web Enabled PL/SQL Window

Use this form to maintain the FND_ENABLED_PLSQL runtime registry.

PL/SQL Object Block

Name

The name of the PL/SQL object.

Type

The type of the PL/SQL object. The object may be a package, package procedure, or procedure.

Enabled

Check this box to enable the PL/SQL object.

APPENDIX

A User Profiles

This appendix lists the profile options that the system administrator can set for the site, application, responsibility, or user. The profile descriptions include the internal name of the profile option used when defaulting values from a profile option.

Profile Options in Oracle Application Object Library

This section lists each profile option in Oracle Application Object Library. These profile options are available to every product in Oracle Applications. For each profile option, we give a brief overview of how Oracle Application Object Library uses the profile's setting.

A table is provided for most profile options that lists the access levels for the profile option. There are four possible levels at which system administrators can view and update a profile option value: site, application, responsibility, and user. This table lists whether the profile option's value is visible at each of these levels, and whether it is updatable at each level.

Account Generator:Debug Mode

This profile option controls Oracle Workflow process modes for the Account Generator feature. This profile option should normally be set to "No" to improve performance. If you are testing your Account Generator implementation and using the Oracle Workflow Monitor to see your results, set this profile option to "Yes".

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is ACCOUNT_GENERATOR:DEBUG_MODE.

Applications Help Web Agent

Applications Help Web Agent is optional. Use this profile if you want to launch online help on a web server different from the one specified by the Applications Servlet Agent. Specify the entire online help URL for the value:

```
http://<host name of servlet agent>:<port number of servlet
    agent>/OA_HTML/jsp/fnd/fndhelp.jsp?dbc=<DBC file name>
```

This new usage of HELP_WEB_AGENT provides one with the flexibility of reverting back to the previous Release 11*i* applet version of the tree navigator if desired. To do this, set this profile option to

```
http://<host name of PL/SQL agent>[:<portnumber of PL/SQL
agent>]/<PL/SQL agent name>/fnd_help.launch?par_root=
```

Thisis usually identical to the Applications Web Agent profile option but with the string "/fnd_help.launch?par_root=" appended at the end.

If this profile option is not set, the online help tree navigator will default to starting up at the host name and port number that is specified by the Applications Servlet Agent profile option, The DBC file used will be that of the database where online help was invoked.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is HELP_WEB_AGENT.

Applications Servlet Agent

This profile option is used in launching online help. It is set to the URL which identifies the servlet agent (Apache listener) for your Applications instance. The value of this profile option is used to construct URLs for 'SERVLET' and 'JSP' type functions. An example is

```
http://ap577sun.us.oracle.com:8000/
```

If you want to launch online help from a different web server, you can set the Applications Help Web Agent.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is APPS_SERVLET_AGENT.

Applications Web Agent

Provides the base URL for the Apps Schema's WebServer DAD. Your System Administrator sets this profile option during the install process.

This profile option must be set to the URL which identifies the mod_plsql PL/SQL Gateway Database Access Descriptor base URL for your Applications instance. Oracle Applications use the value of this profile option to construct URLs for 'WWW' type functions, Attachments, Export, and other features.

Use the following syntax to enter your URL:

```
http:<hostname>:<port>/pls/<dad_name>
```

Users can see but not update this profile option.

This profile option is visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is APPS_WEB_AGENT.

Applications Web Authentication Server

The web server used for authentication for Oracle Self–Service Web Applications.

Users can see but not update this profile option.

This profile option is visible and updatable at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is WEB_AUTHENTICATION_SERVER.

Attachment File Directory

The directory in which file type attachments data is stored. The system administrator sets this profile option during the install process.

Users can see but not update this profile option.

This profile option is visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is ATTACHMENT_FILE_DIRECTORY.

AuditTrail:Activate

You can turn AuditTrail on or off (Yes or No). The default setting is No (Off).

When you enter or update data in your forms, you change the database tables underlying the forms you see and use.

AuditTrail tracks which rows in a database table(s) were updated at what time and which user was logged in using the form(s).

- Several updates can be tracked, establishing a trail of audit data that documents the database table changes.
- AuditTrail is a feature enabled on a form–by–form basis by a developer using Oracle's Application Object Library.
- All the forms that support AuditTrail are referred to as an *audit set*.
- Not all forms may be enabled to support AuditTrail.
- To enable or disable AuditTrail for a particular form, you need access to Oracle Application Object Library's *Application Developer* responsibility.

Users cannot see nor change this profile option.

This profile option is visible and updatable at the site and application levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	No	No
User	No	No

The internal name for this profile option is AUDITTRAIL:ACTIVATE.

BIS/AOL:Debug Log Directory

The directory for BIS debugging log files.

Users can see and change this profile option.

System administrators can see and update this profile option at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is BIS_DEBUG_LOG_DIRECTORY.

Concurrent:Active Request Limit

You can limit the number of requests that may be run simultaneously by each user. or for every user at a site. If you do not specify a limit, no limit is imposed.

Users cannot see or update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	Yes

The internal name for this profile option is CONC_REQUEST_LIMIT.

Concurrent:Attach URL

Setting this option to ”Yes” causes a URL to be attached to request completion notifications. When a user submits a request, and specifies people to be notified in the Defining Completion Options region, everyone specified is sent a notification when the request completes. If this profile option is set to Yes, a URL is appended to the notification that enables them to view the request results on–line.

Only the System Administrator can update this profile option.

Users can see but not update this profile option.

This profile options is visible at all levels but can only updated at the Site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is CONC_ATTACH_URL.

Concurrent:Conflicts Domain

Specify a conflict domain for your data. A conflict domain identifies the data where two incompatible programs cannot run simultaneously.

Users can see but not update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_CD_ID.

Concurrent:Collect Request Statistics

Set this profile option to ”Yes” to have statistics for your runtime concurrent processes collected.

To review the statistics you must run the Purge Concurrent Request and / or Manager Data program to process the raw data and have it write the computed statistics to the FND_CONC_STAT_SUMMARY table. You can then retrieve your data from this table using SQL*PLUS or on a report by report basis using the Diagnostics window from the Requests window.

Users cannot see nor change this profile option.

This profile option is visible at all levels bu can only be updated at the Site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is CONC_REQUEST_STAT.

Concurrent:Debug Flags

Your Oracle support representative may access this profile option to debug Transaction Managers. Otherwise, it should be set to null.

Users cannot see nor change this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_DEBUG.

Concurrent: GSM Enabled

This profile option is reserved for a future release. For now, the value should be set to ”No”.

Concurrent:Hold Requests

You can automatically place your concurrent requests on hold when you submit them.

The default is “No”. The concurrent managers run your requests according to the priority and start time specified for each.

Changing this value does not affect requests you have already submitted.

“Yes” means your concurrent requests and reports are automatically placed on hold. To take requests off hold, you:

- Navigate to the Requests window to select a request
- Select the Request Control tabbed region
- Uncheck the Hold check box

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_HOLD.

Concurrent:Multiple Time Zones

"Yes" sets the default value to 'Sysdate–1' for the 'Schedules Start Date' used by request submissions. Sysdate–1 ensures that you request is scheduled immediately regardless of which time zone your client session is running in. You should use this profile option when the client's session is running in a different time zone than the concurrent manager's session.

Users cannot see nor change this profile option.

This profile option is visible at all four levels and updatable at the Site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is CONC_MULTI_TZ.

Concurrent:PMON method

PMON refers to *process monitor*. The Internal Concurrent Manager monitors the individual concurrent managers' processes to verify the managers are running. The Internal Concurrent Manager uses one of two methods to monitor the individual managers's processes:

RDBMS (default) RDBMS refers to *relational database management system*. The Internal Concurrent Manager reads a database table holding values submitted by the individual managers. When a manager is no longer running, the table value for that manager changes.

OS OS refers to *operating system*. The Internal Concurrent Manager sends a signal to the operating system for each manager's system process ID to verify the process is intact.

Attention: The OS method should only be used when a hardware platform or operating system requires it.

To change this profile option setting, you must execute a SQL script from the applsys account. The script is titled afimpmon.sql and is located in the sql directory of the Application Object Library product

directory. For example, in UNIX, the path may be $FND_TOP/sql/afimpmon.sql.

Additional Information: *Oracle Applications Installation Manual* for your operating system

Attention: Contact Oracle Worldwide Support before changing your Concurrent:PMON method profile option setting.

Users cannot see nor change this profile option.

This profile option is neither visible nor updatable from the System Profile Options form.

Level	Visible	Allow Update
Site	No	No
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is CONC_PMON_METHOD.

Concurrent:Report Access Level

Determines access privileges to report output files and log files generated by a concurrent program. This profile option can be set by a System Administrator to User or Responsibility.

If your Concurrent:Report Access Level profile option is set to "User" you may:

- View the completed report output for your requests online
- View the diagnostic log file for those requests online. (system administrator also has this privilege)
- Reprint your completed reports, if the Concurrent:Save Output profile option is set to "Yes".
- If you change responsibilities, then the reports and log files available for online review do not change.

If your Concurrent:Report Access Level profile option is set to "Responsibility", access to reports and diagnostic log files is based on the your current responsibility.

- If you change responsibilities, then the reports and log files available for online review change to match your new responsibility. You can always see the output and log files from reports you personally submit, but you also see reports and log files submitted by any user from the current responsibility.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the site, responsibility, and user levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_REPORT_ACCESS_LEVEL.

Concurrent:Report Copies

You can set the number of output copies that print for each concurrent request. The default is set to 1.

- Changing this value does not affect requests that you have already submitted.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_COPIES.

Concurrent:Request Priority

This displays the default priority number for your concurrent requests. Only a system administrator can change your request priority.

Requests normally run according to start time, on a “first–submitted, first–run” basis. Priority overrides request start time. A higher priority request starts before an earlier request.

Priorities range from 1 (highest) to 99 (lowest). The standard default is 50.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_PRIORITY.

Concurrent:Request Start Time

You can set the date and time that your requests are available to start running.

- If the start date and time is at or before the current date and time, requests are available to run immediately.
- If you want to start a request in the future, for example, at 3:45 pm on June 12, 2002, you enter 2002/06/12 15:45:00 as the profile option value.

Attention: You must ensure that this value is in canonical format (YYYY/MM/DD HH24:MI:SS) to use the Multilingual Concurrent Request feature.

- You must include both a date and a time.
- Changing this value does not affect requests that you have already submitted.
- Users can override the start time when they submit requests. Or, this profile option can be left blank and users will be prompted for a start time when they submit requests.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_REQ_START.

Concurrent:Save Output

The Concurrent: Save Output profile is used to determine whether the default behavior of certain concurrent programs should be to save or

delete their output files. This only affects concurrent programs that were created in the character mode versions of Oracle Applications and that have a null value for ”Save Output”.

- ”Yes” saves request outputs.
- Some concurrent requests do not generate an output file.
- If your request output is saved, you can reprint a request. This is useful when requests complete with an Error status, for example, the request runs successfully but a printer malfunctions.
- Changing this value does not affect requests you have already submitted.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_SAVE_OUTPUT.

Concurrent:Sequential Requests

You can force your requests to run one at a time (sequentially) according to the requests' start dates and times, *or* allow them to run concurrently, when their programs are compatible.

- Concurrent programs are incompatible if simultaneously accessing the same database tables incorrectly affects the values each program retrieves.
- When concurrent programs are defined as incompatible with one another, they cannot run at the same time.

“Yes” prevents your requests from running concurrently. Requests run sequentially in the order they are submitted.

“No” means your requests *can* run concurrently when their concurrent programs are compatible.

Changing this value does not affect requests you have already submitted.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_SINGLE_THREAD.

Concurrent: Show Requests Summary After Each Request Submission

Using this new profile option, you can choose to either have the Requests Summary displayed each time you submit a request, or retain the request submission screen.

The default is “Yes”. “Yes” means the Requests Summary screen is displayed each time you submit a request.

If you choose ”No”, a decision window is opened asking you if you wish to submit another request. When you choose to submit another request you are returned to the submission window and the window is not cleared, allowing you to easily submit copies of the same request with minor changes.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_REQ_SUMMARY.

Concurrent:Wait for Available TM

You can specify the maximum number of seconds that the client will wait for a given transaction manager (TM) to become available before moving on to try a different TM.

Users can see and update this profile option.

This profile option is visible and updatable at the site and application levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	No	No
User	No	No

The internal name for this profile option is CONC_TOKEN_TIMEOUT.

Concurrent:URL Lifetime

The numeric value you enter for this profile option determines the length of time in minutes a URL for a request ouput is maintained. After this time period the URL will be deleted from the system. This profile option only affects URLs created for requests where the user has entered values in the notify field of the Submit Request or Submit Request Set windows.

Attention: All request ouput URLs are deleted when the Pruge Concurrent Requests and Manager... program is run even if the URL liftime has not expired.

Users can see and update this profile option.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CONC_URL_LIFETIME.

Currency:Mixed Precision

Use Mixed Currency Precision to specify how many spaces are available to the right of the decimal point when displaying numbers representing different currencies.

- Normally, currency numbers are right–justified.
- Each currency has its own precision value that is the number of digits displayed to the right of a decimal point. For U.S. dollars the precision default is 2, so an example display is 345.*70*.
- Set Mixed Currency Precision to be equal to or greater than the *maximum* precision value of the currencies you are displaying.

For example, if you are reporting on rows displaying U.S. dollars (precision=2), Japanese yen (precision=0), and Bahraini dinar (precision=3), set Mixed Currency Precision=3.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CURRENCY:MIXED_PRECISION.

Currency:Negative Format

You can use different formats to identify negative currency. The default identifier is a hyphen (–) preceding the currency amount, as in ”–xxx”. You can also select:

Angle brackets < >	< xxx >
Trailing hyphen –	xxx –
Parentheses ( )	(xxx)
Square Brackets [ ]	[xxx]

If you use the negative number formats of “(xxx)” or “[xxx],” in Oracle Applications Release 11, your negative numbers appear as “<xxx>”.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CURRENCY:NEGATIVE_FORMAT.

> **Note:** Currency:Negative Format only affects the display currency. Non–currency negative numbers appear with a preceding hyphen regardless of the option selected here.

Currency:Positive Format

You can use different formats to identify positive currency values. The default condition is no special identifier.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CURRENCY:POSITIVE_FORMAT.

Currency:Thousands Separator

You can separate your currency amounts in thousands by placing a thousands separator. For example, one million appears as 1,000,000.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is CURRENCY:THOUSANDS_SEPARATOR.

Database Instance

Entering a valid two_task connect string allows you to override the default two_task. This profile is specifically designed for use with Oracle Parallel Server, to allow different responsibilities and users to connect to different nodes of the server.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is INSTANCE_PATH.

Default Country

This is the default source for the Country field for all address zones and is used by the Flexible Address Formats feature, the Flexible Bank Structures feature and the Tax Registration Number and Taxpayer ID validation routines.

The profile can be set to any valid country listed in the Maintain Countries and Territories form and can be set to a different value for each user.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is DEFAULT_COUNTRY.

Flexfields:AutoSkip

You can save keystrokes when entering data in your flexfields by automatically skipping to the next segment as soon as you enter a complete valid value into a segment.

- "Yes" means after entering a valid value in a segment, you automatically move to the next segment.
- "No" means after entering a valid value in a segment, you must press [Tab] to go to the next segment.

  Note: You may still be required to use tab to leave some segments if the valid value for the segment does not have the same number of characters as the segment. For example, if a segment in the flexfield holds values up to 5 characters and a

valid value for the segment is 4 characters, AutoSkip will not move you to the next segment.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:AUTOSKIP.

Flexfields:BiDi Direction

This profile option controls the appearance of the flexfields window in Applications running in Semitic languages. Possible values are ”Left To Right” and ”Right To Left”. If the profile option is not defined on a particular installation, the default value is ”Right To Left”, where the window appears in a normal, left to right fashion, and the text and layout are reversed to accommodate the right–to–left nature of the Semitic language environment.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:BIDI_DIRECTION.

Flexfields:LOV Warning Limit

Use Flexfields:LOV Warning Limit to improve efficiency when retrieving a list of values.

Sometimes, particularly when no reduction criteria has been specified, an LOV can take a very long time to run if there is a very significant amount of data in it. Set this profile option to the number of rows to be returned before the user is asked whether to continue retrieving the entire list.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is QUICKPICK_ROWS_BEFORE_WARN.

Flexfields:Open Descr Window

You can control whether a descriptive flexfield window automatically opens when you navigate to a customized descriptive flexfield.

- "Yes" means that the descriptive flexfield window automatically opens when you navigate to a customized descriptive flexfield.
- "No" means that when you navigate to a customized descriptive flexfield, you must choose **Edit Field** from the Edit menu or use the List of Values to open the descriptive flexfield window.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:OPEN_DESCR_WINDOW.

> **Note:** This profile option does not apply to descriptive flexfields in folders.

Flexfields:Open Key Window

You can control whether a key flexfield window automatically opens when you navigate to a key flexfield.

- "Yes" means that the key flexfield window automatically opens when you navigate to a key flexfield.

- "No" means that when you navigate to a key flexfield, you must choose **Edit Field** from the Edit menu or use the List of Values to open the key flexfield window.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:OPEN_KEY_WINDOW.

Flexfields:Shared Table Lock

This profile option is used by the Oracle Applications flexfields internal code only. You should not alter the value of this profile option unless instructed to do so by an Oracle representative.

The internal name for this profile option is FLEXFIELDS:SHARED_TABLE_LOCK.

Flexfields:Shorthand Entry

If shorthand flexfield entry is defined for your flexfield, you can use a shorthand alias to automatically fill in values for some or all of the segments in a flexfield.

Not Enabled Shorthand Entry is not available for any flexfields for this user, regardless of whether shorthand aliases are defined.

New Entries Only Shorthand Entry is available for entering new records in most foreign key forms. It is not available for combinations forms, updating existing records, or entering queries.

Query and New Entry Shorthand Entry is available for entering new records or for entering queries. It is not available for updating existing records.

All Entries Shorthand Entry is available for entering new records or updating old records. It is not available for entering queries.

Always Shorthand Entry is available for inserting, updating, or querying flexfields for which shorthand aliases are defined.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:SHORTHAND_ENTRY.

Flexfields:Show Full Value

If an alias defines valid values for *all* of the segments in a flexfield, and Flexfields: Shorthand Entry is enabled, when you enter the alias the flexfield window does not appear.

"Yes" displays the full flexfield window with the cursor resting on the last segment.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:SHOW_FULL_VALUE.

Flexfields:Validate On Server

This profile option is set to "Yes" to enable server side, PL/SQL flexfields validation for Key Flexfields. This improves performance when using Key Flexfields over a wide area network by reducing the number of network round trips needed to validate the entered segment combinations.

You may find, however, that your validation's performance is better with client side validation. In this case, set this profile option to "No".

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FLEXFIELDS:VALIDATE_ON_SERVER.

FND: Debug Log Filename

The file name for the file to hold debugging messages used in the Log / Trace Service. If the value of this profile option is null, then the Log / Trace Service is turned off.

Users can see and update this profile option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is AFLOG_FILENAME.

FND: Debug Log Level

The Log / Trace Service can filter out debugging messages depending on their priority level.. There are five levels of the Debug / Trace Service:. In order from highest priority to lowest priority, they are: Errors, Exceptions, Events, Procedures, and Statements. The Debug Log Level is the lowest level that the user wants to see messages for.. The possible profile option values are Null (which means off), and the five priority levels above. For instance, if the ”FND: Debug Log Level” profile is set to ”EVENT”, then the file will get the messages that the programmer had marked as ”EVENT”, ”EXCEPTION”, or ”ERROR”.

Users can see and update this profile option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is AFLOG_LEVEL.

FND: Debug Log Module

The Log / Trace Service can filter out debugging messages depending on their module. Module names are unique across applications and coding languages. If a module is specified for this profile option, then only messages for that module will be written to the log file. If this profile option is left blank then messages for all modules will be written to the log file.

Users can see and update this profile option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is AFLOG_MODULE.

FND: Resource Consumer Group

Resource consumer groups are used by the Oracle8i Database Resource Manager, which allocates CPU resources among database users and applications. Each form session is assigned to a resource consumer group. The system administrator can assign users to a resource consumer group for all of their forms sessions and transactions. If no resource consumer group is found for a process, the system uses the default group "Default_Consumer_Group".

Users can see this profile option, but they cannot update it.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FND_RESOURCE_CONSUMER_GROUP.

FND: Override Directory

The FND:Override Directory profile option is used by the Work Directory feature. The value of FND: Override Directory should be the

directory containing your alternate files. Typically, this profile option should be set at the User level only.

Users can see and update this profile option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is APPLWRK.

Folders:Allow Customization

Your system administrator controls whether you can create or customize a folder definition layout in folder block.

- "Yes" means that you can create or customize a folder definition, that is, the entire Folder menu is enabled in the folder block.
- "No" means that you can only open an existing folder definition in a folder block, that is, only the Open option is enabled in the Folder menu.

Users can see this profile option, but they cannot update it.

Level	Visible	Allow Update
Site	No	No
Application	No	No
Responsibility	No	No
User	Yes	Yes

The internal name for this profile option is FLEXVIEW:CUSTOMIZATION.

Gateway User ID

Oracle login for gateway account. This should be the same as the environment variable GWYUID. For example, *applsyspub/pub*.

Users can see and but not update this profile option.

This profile option is visible at all levels but may only be updated at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is GWYUID.

Help Localization Code

Localized context–sensitive help files are preferred when your System Administrator sets this profile option.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the responsibility and user levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is HELP_LOCALIZATION_CODE.

Help Tree Root

This profile option determines which tree is shown in the navigation frame when context–sensitive help is launched.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is HELP_TREE_ROOT.

Help Utility Download Path

Use this profile option to define the directory into which the Help Utility downloads help files from the Oracle Applications Help System.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is HELP_UTIL_DL_PATH.

Help Utility Upload Path

Use this profile option to define the directory from which the Help Utility uploads help files to the Oracle Applications Help System.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is HELP_UTIL_UL_PATH.

Hide Diagnostics Menu Entry

This profile option determines whether users can access the Diagnostics menu entry from the Help menu. If it is set to Yes, the Diagnostics menu entry is hidden. If it is set to No, the Diagnostics menu entry is visible.

Users cannot see nor change this profile option.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FND_HIDE_DIAGNOSTICS.

ICX: Client IANA Encoding

This profile option is used to determine the character set of the text displayed by Java Server pages.

This profile option must be set to the correct character set (that is, the character set of the Apache server on the Web tier) for the online help system to support character sets other than American English.

The default setting is the US character set (ISO–8859–1).

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is ICX_CLIENT_IANA_ENCODING.

ICX: Discoverer Launcher, Forms Launcher, and Report Launcher

These profile options are used by the Oracle Applications Personal Homepage.

Set the site level value of each of these profile options to the base URL for launching each application. The profile option value should be sufficient to launch the application, but should not include any additional parameters which may be supplied by the Personal Homepage.

Users can see these profile options, but they cannot update them.

These profile options are visible and updatable at all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for these profile options are ICX_DISCOVERER_LAUNCHER, ICX_FORMS_LAUNCHER, and ICX_REPORT_LAUNCHER.

Indicate Attachments

This profile option allows you to turn off indication of attachments when querying records (for performance reasons).

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is ATCHMT_SET_INDICATOR.

Initialization SQL Statement – Custom

This profile option allows you to add site–specific initialization code (such as optimizer settings) that will be executed at database session startup. The value of this profile option must be a valid SQL statement.

The system administrator may set this profile option at any level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FND_INIT_SQL.

Initialization SQL Statement – Oracle

This profile option is used to add application–specific code. The value is a valid SQL statement (or a PL/SQL block for more than one statement), that is executed at startup of every database session.

The value of this profile option is delivered as seed data and cannot be updated.

Attention: Do not attempt to modify the value of this profile option. Use the profile option Initialization SQL Statement – Custom to add custom initialization code.

This profile option is set at the application level only. The initialization code will be executed only for responsibilities owned by that application.

Level	Visible	Allow Update
Site	Yes	No
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is FND_APPS_INIT_SQL.

Maximum Page Length

Determines the mazimum number of lines per page in a report.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is MAX_PAGE_LENGTH.

MO:Operating Unit

Determines the Operating Unit the responsibility logs onto.

Users can see and update this profile option.

This profile option is visible and updatable at the responsibility level only.

Level	Visible	Allow Update
Site	No	No
Application	No	No
Responsibility	Yes	Yes
User	No	No

The internal name for this profile option is ORG_ID.

Personnel Employee:Installed

When enabled, ”Personnel Employee:Installed” allows you as System Administrator to link an application username and password to an employee name.

- The ”Person” field is usable on the Define Application User form (\ **N**avigate **S**ecurity **U**ser).

Oracle Purchasing uses this capability to associate an employee in your organization with an Oracle Applications user.

The installation process enables this profile option. You cannot change the value of ”Personnel Employee: Installed”.

Users cannot see nor change this profile option.

This profile option is visible at the site level, but cannot be updated.

Level	Visible	Allow Update
Site	Yes	No
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is PER_EMPLOYEE:INSTALLED.

Printer

You can select the printer which prints your reports. If a printer cannot be selected, contact your system administrator. Printers must be registered with Oracle Applications.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is PRINTER.

RRA:Delete Temporary Files

When using a custom editor to view a concurrent output or log file, the Report Review Agent will make a temporary copy of the file on the client. Set this profile to ”Yes” to automatically delete these files when the user exits Oracle Applications.

Only the System Administrator can update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FS_DELETE.

RRA:Enabled

Set this user profile to ”Yes” to use the Report Review Agent to access files on concurrent processing nodes.

Only the System Administrator can update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FS_ENABLED.

RRA: Service Prefix

Using this new profile option allows you to override the default service name prefix (FNDFS_) assigned to the Report Review Agent. By assigning a new prefix to the Report Review Agent you can avoid having multiple instances of the Applications share executables.

Valid values for this option must be nine characters or less and use only alphanumeric characters or the underscore. We recommend using the underscore character as the last character of your value as in the default value ”FNDFS_”.

Users cannot see or update this profile option.

This profile option is visible and updatable at the site level only.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is FS_SVC_PREFIX.

Attention: GLDI will not support the "RRA: Service Prefix" profile until release 4.0 and so uses the default prefix "FNDFS_" regardless of the value entered for the profile option. Consequently, you must ensure that at least one of your Report Review Agents maintains the default prefix in order for GLDI to access the application executables.

RRA:Maximum Transfer Size

Specify, in bytes, the maximum allowable size of files transferred by the Report Review Agent, including those downloaded by a user with the "Copy File..." menu option in the Oracle Applications Report File Viewer and those "temporary" files which are automatically downloaded by custom editors. For example, to set the size to 64K you enter 65536. If this profile is null, there is no size limit.

Only the System Administrator can update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FS_MAX_TRANS.

Security Groups Enabled

Set this profile option to "Yes" if you are implementing HRMS security. In all other cases set this profile option to "No". The Security Groups feature is used by HRMS security only.

Only the System Administrator can update this profile option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	No	No
User	No	No

The internal name for this profile option is ENABLE_SECURITY_GROUPS.

Sequential Numbering

Sequential Numbering assigns numbers to documents created by forms in Oracle financial products. For example, when you are in a form that creates invoices, each invoice document can be numbered sequentially.

Sequential numbering provides a method of checking whether documents have been posted or lost. Not all forms within an application may be selected to support sequential numbering.

Sequential Numbering has the following profile option settings:

Always Used You may not enter a document if no sequence exists for it.

Not Used You may always enter a document.

Partially Used You will be warned, but not prevented from entering a document, when no sequence exists.

Users can see this profile option, but they cannot update it.

This profile option is visible and updatable at the site, application, and responsibility levels.

> **Note:** If you need to control Sequential Numbering for each of your set of books, use the 'Responsibility' level. Otherwise, we recommend that you use either the 'Site' or 'Application' level to set this option.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	No	No

The internal name for this profile option is UNIQUE:SEQ_NUMBERS.

Session ID

This runtime profile option contains the session ID number of the last database session that was created.

Users can see this profile option, but they cannot update it.

This profile option is neither visible nor updatable from the System Profile Options form.

Level	Visible	Allow Update
Site	No	No
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is DB_SESSION_ID.

Sign–On:Audit Level

Sign–On:Audit Level allows you to select a level at which to audit users who sign on to Oracle Applications. Four audit levels increase in functionality: None, User, Responsibility, and Form.

None is the default value, and means do not audit any users who sign on to Oracle Applications.

Auditing at the User level tracks:

- who signs on to your system
- the times users log on and off
- the terminals in use

Auditing at the Responsibility level performs the User level audit functions and tracks:

- the responsibilities users choose
- how much time users spend using each responsibility

Auditing at the Form level performs the Responsibility level audit functions and tracks:

- the forms users choose
- how long users spend using each form
- System Administrator visible, updatable at all levels.

Users cannot see nor change this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is SIGNONAUDIT:LEVEL.

Sign–On:Notification

”Yes” displays a message at login that indicates:

- If any concurrent requests failed since your last session,

- How many times someone tried to log on to Oracle Applications with your username but an incorrect password, and
- When the default printer identified in your user profile is unregistered or not specified.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is SIGNONAUDIT:NOTIFY.

Signon Password Hard to Guess

The Signon Password Hard to Guess profile option sets rules for choosing passwords to ensure that they will be ”hard to guess.” A password is considered hard–to–guess if it follows these rules:

- The password contains at least one letter and at least one number.
- The password does not contain the username.
- The password does not contain repeating characters.

Users can see but not update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is SIGNON_PASSWORD_HARD_TO_GUESS.

Signon Password Length

Signon Password Length sets the minimum length of an Applications signon password. If no value is entered the minimum length defaults to 5.

Users can see but not update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is SIGNON_PASSWORD_LENGTH.

Site Name

Site Name identifies an installation of Oracle Applications. The installation process sets this to "No Site Name Specified".

You should set a value for "Site Name" after installation.

The Site Name appears in the title of the MDI window. If you want additional information on your installation to appear in the title, for example, "Test" or "Production", you can add that information here

Users cannot see nor change this profile option.

This profile option is visible and updatable at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is SITENAME.

Socket Listener Activated

This profile option is a flag that indicates whether the FormsClient Controller (Socket Listener) should be started by the signon form.

Users can see but not update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is SOCKET_LISTENER_ACTIVATED..

Stored Procedure Log Directory

Specifying a log directory enables stored procedures used with Oracle 7.3 to generate and store log files. You must also set this log directory in the init.ora file of the database.

For example, if the Stored Procedure Log Directory is /rladev/rla/1.1/log and the Stored Procedure Output Directory is /rladev/rla/1.1/out, then the following entry should be made in the init.ora file of the database containing stored procedures that write to these directories:

```
UTL_FILE_DIR = /rladev/rla/1.1/log,
               /rladev/rla/1.1/out
```

Users cannot see nor change this profile option.

This profile option is visible and updatable at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is UTL_FILE_LOG.

Stored Procedure Output Directory

Specifying a output directory enables stored procedures used with Oracle 7.3 to generate and store output files. You must also set this output directory in the init.ora file of the database.

For example, if the Stored Procedure Log Directory is /rladev/rla/1.1/log and the Stored Procedure Output Directory is /rladev/rla/1.1/out, then the following entry should be made in the init.ora file of the database containing stored procedures that write to these directories:

```
UTL_FILE_DIR = /rladev/rla/1.1/log,
               /rladev/rla/1.1/out
```

Users cannot see nor change this profile option.

This profile option is visible and updatable at the site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	No	No
Responsibility	No	No
User	No	No

The internal name for this profile option is UTL_FILE_OUT.

TCF: HOST

Together with the TCF:PORT profile, this profile identifies the network location of the TCF Server. The TCF Server supports various parts of the Oracle Applications UI by executing some of their associated server logic and providing access to the database.

In most configurations, these profiles will be set by the TCF Server's administrative utility 'ServerControl' at the same time the TCF Server is started up. ServerControl will set these two profiles (TCF:HOST, TCF:PORT) at the site level.

For particularly complex environments, it may be appropriate to direct different users to separate TCF Servers by setting these profiles to distinct values at the Application level. Consult the post installation instructions for details on TCF Server configuration options.

This profile option is visible at all levels and updatable at the site and application level only.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is TCF:HOST.

See: Administering the TCF Server page G – 16

TCF: PORT

Together with the TCF:HOST profile, this profile identifies the network location of the TCF Server. The TCF Server supports various parts of the Oracle Applications UI by executing some of their associated server logic and providing access to the database.

In most configurations, these profiles will be set by the TCF Server's administrative utility 'ServerControl' at the same time the TCF Server is

started up. ServerControl will set these two profiles (TCF:HOST, TCF:PORT) at the site level.

For particularly complex environments, it may be appropriate to direct different users to separate TCF Servers by setting these profiles to distinct values at the Application level. Consult *Installing Oracle Applications* for details on the TCF Server configuration options.

Users can see and but not update this profile option.

This profile option is visible at all levels and updatable at the site and application level only.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is TCF:PORT.

See: Administering the TCF Server page G – 16

Two Task

TWO_TASK for the database. This profile is used in conjunction with the Gateway User ID profile to construct a connect string for use in creating dynamic URLs for the Web Server. This should be set to the SQL*NET. alias for the database.

> **Note:** The TWO_TASK must be valid on the node upon which the WebServer is running

Users can see and but not update this profile option.

This profile option is visible at all levels but may only be updated at site level.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	No
Responsibility	Yes	No
User	Yes	No

The internal name for this profile option is TWO_TASK.

Utilities: Diagnostics

Utilities: Diagnostics determines whether a user can automatically use the Diagnostics features. If Utilities:Diagnostics is set to Yes, then users

can automatically use these features. If Utilities:Diagnostics is set to No, then users must enter the password for the APPS schema to use the Diagnostics features.

Users cannot see nor change this profile option.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is DIAGNOSTICS.

Utilities:SQL Trace

SQL trace files can now be generated for individual concurrent programs. The trace can be enabled at the user level by setting the profile "Utilities:SQL Trace" to "Yes". This profile can be enabled for a user only by System Administrator so that it is not accidentally turned on and disk usage can be monitored.

For more information on SQL trace, see the ORACLE8i Server SQL Language Reference Manual.

Users cannot see nor change this profile option.

This profile option is visible and updatable at the all levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

Viewer: Application for HTML, PCL, PDF, Postscript, and Text

These profile options determine the applications a user will use to view reports in the given output formats. For example, you could set Viewer: Application for Text to 'application/word' to view a Text report in Microsoft Word.

Valid values are defined by the system administrator in the Viewer Options form.

Users can see and update these profile options.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal names for these profile options are FS_MIME_HTML, FS_MIME_PCL, FS_MIME_PDF, FS_MIME_PS, and FS_MIME_TEXT.

Viewer:Default Font Size

Using this new profile option, you can set the default font size used when you display report output in the Report Viewer.

The valid values for this option are 6, 8, 10, 12, and 14.

Users can see and update this profile option.

This profile option is visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is FNDCPVWR_FONT_SIZE..

Viewer: Text

The Viewer: Text profile option allows you to send report output directly to a browser window rather than using the default Report Viewer. Enter ”Browser” in this profile option to enable this feature.

Users can see and update the Viewer:Text profile option.

This profile option is both visible and updatable at all four levels.

Level	Visible	Allow Update
Site	Yes	Yes
Application	Yes	Yes
Responsibility	Yes	Yes
User	Yes	Yes

The internal name for this profile option is EDITOR_CHAR.

APPENDIX

B

Using Predefined Alerts

This chapter gives you an overview of Oracle Alert and how to use the predefined alerts that are packaged with your Oracle Applications product. Specifically, this chapter describes:

- The business needs for Oracle Alert
- How to run predefined alerts
- How to modify the predefined alerts to fit your needs

Attention: This chapter focuses on using and customizing the *predefined alerts* that are packaged with Oracle Applications products. If you have a license of the full Oracle Alert product, you should refer to the *Oracle Alert Reference Manual* for information on how to create and customize your own alerts.

Overview of Oracle Alert

Oracle Alert is your complete exception control solution.

Oracle Alert gives you an immediate view of the critical activity in your database. It helps you keep on top of important or unusual business events you need to know about, as they happen. Oracle Alert gives you real–time measurements of staff and organization performance, so you can zero in on potential trouble spots immediately. You can automate routine transactions with Oracle Alert, saving your valuable time for more essential tasks. And, Oracle Alert does all this online, so you do not have to contend with a pile of paperwork.

Oracle Alert gives you the flexibility you need to monitor your business information the way you want.

Basic Business Needs

Oracle Alert meets the following basic business needs:

- Informs you of exception conditions as they occur
- Lets you specify the exception conditions you want to know about, as often as you want to know about them
- Informs you of exception conditions by sending alert messages through a single application—your electronic mail
- Takes actions you specify, based upon your response to an alert message
- Automatically performs routine database tasks, according to a schedule you define
- Integrates fully with your electronic mail system

Oracle Alert Runtime Features

If you do not have a licensed copy of the full Oracle Alert product, you may still derive benefit from major Oracle Alert features by using the predefined alerts that are packaged with your Oracle Applications product.

All Oracle Applications products are packaged with a runtime version of Oracle Alert. Although all the Oracle Alert windows are available in this runtime version, not all the features in those windows are enabled. With the runtime version of Oracle Alert, you can run only the

predefined alerts that are packaged with your product; you cannot create new alerts.

Alert Definitions

Alert

A mechanism that checks your database for a specific exception condition. An alert is characterized by the *SQL SELECT statement* it contains. A SQL SELECT statement tells your application what database exception to identify, as well as what output to produce for that exception.

For example, you can define an alert to flag purchase orders exceeding $10,000, and have that alert output the name of the individual who requested the purchase order, as well as the name of the individual's manager. All predefined alerts are listed in the Alerts window of Oracle Alert.

Event Alert

An event alert monitors the occurrence of a specific exception or change in your database. An exception in your database results if you add or update information using your Oracle Applications windows. The event alert monitors the database for exceptions based on its SQL SELECT statement.

Periodic Alert

A periodic alert periodically reports key information according to a schedule that you define. Rather than notify you of immediate exceptions in the database like an event alert, a periodic alert scans for specific database information specified by its SQL SELECT statement at scheduled intervals.

Alert Action

An alert action is an action you want your alert to perform. An alert action can be dependent on the output from the alert. An alert action can fall under one of three categories:

- Detail action—an action that represents one exception found in the database
- Summary action—an action that represents multiple exceptions found in the database

- No exception action—an action that represents no exceptions found in the database

An action can include sending an electronic mail message to a mail ID, running an Oracle Applications program, running a program or script from your operating system, or running a SQL script to modify information in your database.

You can have more than one action for an alert and an action can incorporate the output of the alert. For example, you may want a particular alert to send a message to a manager, as well as run an Oracle Applications program when an exception occurs.

Action Sets

An action set is a sequence of alert actions that are enabled for a particular alert. Each action that you include in an action set can be assigned a sequence number so that you can specify the order in which the actions are performed. Some predefined alerts may also have more than one action set. You can also assign a sequence number to each action set to specify the order in which each action set is performed.

Predefined Alerts

There are two types of predefined alerts:

- **Event alerts**—for example, the Receiving Notification alert for Oracle Purchasing notifies the requestor with a mail message when an item is received and entered in the Receipts window.
- **Periodic alerts**—for example, the Forecast Over–Consumption alert for Oracle Material Planning checks every day for over–consumption of the forecast and sends you a mail message if the current forecast quantity listed in the Forecast Entries window goes below zero.

Suggestion: See your product's reference guide for a list of the predefined alerts that are packaged with your Oracle Applications product.

Using Predefined Alerts

All predefined alerts are initially disabled. You must enable the alerts you want to use. Select the Oracle Alert Manager responsibility when you start Oracle Applications to view or use a predefined alert. The Alert Manager responsibility gives you access to the Oracle Alert menu.

Navigate to the Alerts window to enable or edit predefined alerts. To display the predefined alert(s) for your Oracle Applications product, execute a query with your Oracle Applications product name in the Application field.

The Name field displays the name of the predefined alert. The Type field indicates if the alert is an event or a periodic alert.

You can enable an alert to run by checking the Enabled check box. You can also enter an End Date to specify the date until you want this alert run.

Choose the Alert Details button to open the Alert Details window. Choose the Alert Installations tabbed region to display the available Installations.

Enter the Oracle ID of the application installation you want your alert to run against. You can select only the Oracle IDs that are associated with the application that owns your alert. You can disable an Oracle ID for the alert temporarily by unchecking the Enabled check box.

Choose the Actions button to open the Actions window. Oracle Alert automatically displays the actions that are defined for the alert.

In the Actions window, if the Action Type is Detail, choose the Action Details button to display details for that action.

The alert action sends an alert action message to the mail ID listed in the To field of the Message Detail zone. If the mail ID is in the format ***&NAME***, where ***Name*** is an output defined by your alert, you need not modify this field. If, however, the mail ID in the To field is not in the above format or if there is no value entered in the field, you must enter the mail ID(s) of the person(s) you wish to receive the alert action message. After modifying the contents of this window, save your work.

Navigate to the Oracle Alert Options window. Use this window to specify the electronic mail application you wish to integrate with the predefined alerts.

In the Alerts window, choose the Actions Sets button to navigate to the Action Sets window. Oracle Alert automatically displays the action sets defined for the alert.

Check the Enabled check box for each action set you wish to use. You may also enter an End Date field to specify the date until you want this alert action set to be enabled.

In addition, in the Action Set Members block, check the Enabled check box for each action set member you want to use in that action set.

You may also enter an End Date to specify the date until you want this alert action set member to be enabled. When you finish, save your work.

Your predefined alert is now ready to use.

Customizing Predefined Alerts

You can customize predefined alerts in the following ways to suit your business needs:

Electronic Mail Integration

Oracle Alert is fully integrated with Oracle Office and can use Oracle Office to send electronic mail messages to your users. Since Oracle Office has gateways to other electronic mail systems, Oracle Alert can send messages to users on those systems as well. Oracle Alert can also use UNIX mail, VMS mail, or a custom mail system to send electronic mail messages to your users.

You open the Oracle Alert Options window and use the Mail Systems tabbed region to specify the electronic mail application you wish to use

with your predefined alerts. You enter the Name of your electronic mail application, the operating system Command you use to start the mail application, and any Parameters you wish to pass to the mail program.

If you are using Oracle Office, you need not specify an operating system Command. Once you enter the information for your mail application, check the In Use check box, then save your work. You can have only one mail application enabled at any given time.

Standard Alert Message Text

You can customize the message header and footer text that appears in all your alert message actions. Navigate to the Message Elements tabbed region of the Oracle Alert Options window, and four message elements appear automatically. Each element represents a specific type of message text that appears in all your alert mail messages.

In the runtime version of Oracle Alert, you need to edit only the Message Action Header and Message Action Footer elements. Simply customize the text that appears to alter the text at the beginning and end of every alert message. You may also leave the text blank if you do not want to display any standard text in your alert messages. Save your work when you are done making changes in this window.

Alert Frequency

You can schedule the frequency you wish to run each predefined periodic alert. You may want to check some alerts every day, some only once a month, still others only when you explicitly request them. You have the flexibility to monitor critical exceptions every day, or even multiple times during a 24–hour period. And, you can set less significant exceptions to a more infrequent schedule; for example, a monthly schedule.

To change the frequency of a predefined alert, navigate to the Alerts window. Perform a query to display the predefined periodic alert you wish to modify, then alter the Frequency of the periodic alert.

Alert History

Oracle Alert can keep a history of exceptions and actions for a particular alert. Use the Alerts window to alter the number of days of history you wish to keep for an alert. Simply change the Keep N Days field to the number of days of history you wish to keep.

Suppressing Duplicates

If you do not want Oracle Alert to send repeated messages for the same alert exception, you can choose to suppress duplicate messages. If

Oracle Alert finds a duplicate exception condition for the alert, it simply does not execute the action set members for that alert again.

Use the Suppress Duplicates check box in the Action Sets block of the Alerts window to specify this option. The default for the Suppress Duplicates check box is unchecked. If you check the Suppress Duplicates check box, you must also make sure you keep history for the alert at least one day longer than the number of days between alert checks. Oracle Alert uses the history information to determine if an exception is a duplicate.

Message Actions

If a predefined alert involves a message action, you can customize certain aspects of that message action. Navigate to the Actions block in the Alerts window by choosing the Actions button. In this block, move your cursor to the row representing the message action you want to customize, then choose the Action Details button to open the Action Detail window for that message action. You can modify the following features of the message action:

- Recipient list—you can add or delete mail IDs in the List, To, Cc, Bcc, or Print For User fields. You should not modify any mail IDs listed with the format ***&Name***, as they represent mail ID's defined by the alert output.
- Printer—you can modify the name of the printer to which you want Oracle Alert to direct the message.
- Text—you can modify the boilerplate text that you want your alert message to send. Do not edit any of the alert outputs (in the format ***&Name***) used in the body of the text. For summary messages, edit only the opening and closing text within the summary message. Save your work when you finish making modifications.

Summary Threshold

Predefined alerts use one of three action types: detail action, summary action, and no exception action. A no exception action is straightforward in that Oracle Alert performs the defined action when no exceptions are found for the alert.

But how does Oracle Alert know when to perform a detail or a summary action? Oracle Alert can perform a detail action for every exception it finds, regardless of the number of exceptions, or Oracle Alert can perform a summary action for a unique set of exceptions. For example, you can receive individual mail messages for each exception

found by an alert, or you can receive a single mail message summarizing all the exceptions found by the alert.

In the Members tabbed region of the Action Sets block of the Alerts window, you can set a Summary Threshold to specify how many exceptions Oracle Alert can find before it should change the action from a detail action to a summary action.

Oracle Alert Precoded Alerts

Your Oracle Alert installation contains custom alerts that are designed to help you manage your database and the data you generate when you use Oracle Alert. Oracle Alert provides eight alerts that systematically monitor your system for potential tablespace, disk space, and allocation problems, making your Database Administrators more efficient, and increasing database performance.

Occasionally, you will want to purge your database of obsolete concurrent requests, alert checks, and action set checks. Oracle Alert provides two alerts that let you periodically remove old files, freeing up valuable tablespace and increasing database performance. Oracle Alert also provides an alert that clears your Oracle Alert electronic mail folders of older messages, keeping your send mail and response mail accounts to a manageable size.

This section gives you an overview of these eleven alerts, and suggestions on how to use them to enhance your system performance.

Terms

Before reading this discussion of precoded alerts, you may want to familiarize yourself with the following Glossary terms:

- Periodic Alert
- Exception
- Action
- Detail Action
- Summary Action
- No Exception Action
- Input

Oracle Alert DBA Alerts

Oracle Alert DBA alerts help you manage your database by notifying you regularly of:

- Tables and indexes unable to allocate another extent
- Users who are nearing their tablespace quota

- Tablespaces without adequate free space
- Tables and indexes that are too large or are fragmented
- Tables and indexes that are near their maximum extents

Customizable Alert Frequencies

Oracle Alert DBA alerts are periodic alerts, so you determine how often they check your database. Set them to run daily, weekly, or monthly, according to your database needs.

Summary and No Exception Messages

If Oracle Alert finds the database exceptions specified in a DBA alert, it sends you a message summarizing all exceptions found. If Oracle Alert finds no exceptions, it sends you a message reporting that no exceptions were found. Oracle Alert keeps you notified of the status of your database, even if it is unchanging.

Customizable Alert Inputs

Inputs let you customize your DBA alerts. You can specify the ORACLE username, table, or index you want your alerts to target, and you can specify the threshold number of extents, maximum extents, or blocks Oracle Alert should look for. You can also define your input values at the action set level, so you can create multiple action sets that target different usernames, tables, and indexes. You can create as many action sets as you need.

Support for Multiple Database Instances

The Applications DBA application owns the Oracle Alert DBA alerts. This lets Oracle Alert perform the DBA alerts for every database instance you create, even those that reside outside Oracle Alert's database.

Applications DBA Alerts Descriptions

The following descriptions list the customizable frequency and inputs of each DBA alert.

Tables Unable to Allocate Another Extent

This alert looks for tables where the next extent is larger than the largest free extent.

Frequency Every N Calendar Days

Inputs Table Name, ORACLE Username

Indexes Unable to Allocate Another Extent

This alert looks for indexes where the next extent is larger than the largest free extent.

Frequency Every N Calendar Days

Inputs Index Name, ORACLE Username

Users Near Their Tablespace Quota

This alert detects users that are near their tablespace quota.

Frequency Every N Calendar Days

Inputs ORACLE Username

Tablespace Name

Check minimum percent free space remaining

Check maximum percent space use

Minimum total free space remaining (in bytes)

Maximum percent space used

Tablespaces Without Adequate Free Space

This alert looks for tablespaces without a specified minimum amount of free space.

Frequency Every N Calendar Days

Inputs Tablespace Name

Check total free space remaining

Check maximum size of free extents available

Maximum size of free extents available (in bytes)

Minimum total free space remaining (in bytes)

Indexes Too Large or Fragmented

This alert detects indexes that exceed a specified number of blocks or extents.

Frequency Every N Calendar Days

Inputs Index Name

ORACLE Username

Check maximum number of blocks

Check maximum number of extents

Maximum number of blocks

Maximum number of extents

Tables Too Large or Fragmented

This alert detects tables that exceed a specified number of blocks or extents.

Frequency Every N Calendar Days

Inputs Table Name

ORACLE Username

Check maximum number of blocks

Check maximum number of extents

Maximum number of blocks

Maximum number of extents

Tables Near Maximum Extents

This alert searches for tables and indexes that are within a specified number of extents of their maximum extents.

Frequency Every N Calendar Days

Inputs Table Name

ORACLE Username

Minimum number of extents remaining

Indexes Near Maximum Extents

This alert searches for tables and indexes that are within a specified number of extents of their maximum extents.

Frequency Every N Calendar Days

Inputs Index Name

ORACLE Username

Minimum number of extents remaining

Oracle Alert Purging Alerts

Two of the Oracle Alert precoded alerts are designed to help you manage the data you generate when you use Oracle Alert. While using Oracle Alert you should be able to:

- Automatically delete concurrent requests older than a specified number of days
- Automatically clean out alert checks and action set checks that are older than a specified number of days

Customizable Alert Frequencies

You determine the schedule for running your purge alerts. On the schedule you define, Oracle Alert submits the purge alerts to the Concurrent Manager, and deletes all old concurrent requests.

Customizable Alert Inputs

Inputs let you customize your alerts. You specify which application and which concurrent program you want your purge alerts to target, and you decide when your data becomes unnecessary or "old." You define your input values at the action set level, so you can create multiple action sets that target different applications and different concurrent programs. You can create as many action sets as you need, so you can keep your system free from unnecessary files.

Oracle Alert Purging Alerts Descriptions

The following descriptions list the customizable frequency and inputs of each purging alert.

Purge Alert and Action Set Checks

This alert looks for alert and action set checks older than the number of days you specify, and runs a SQL statement script that deletes them.

Alert Type Periodic

Periodicity Every N Calendar Days

Inputs Application Name, Number of days since alert check

> **Note:** Oracle Alert will not delete alert checks and/or action set checks for a response processing alert that has open responses.

Purge Concurrent Requests

This alert looks for concurrent requests and their log and out files that are older than the number of days you specify, and runs a concurrent program that deletes them. If you enter a concurrent program name input, you should use the program name (located in the column USER_CONCURRENT_PROGRAM_NAME in the table FND_CONCURRENT_REQUESTS), and not the optional description that may accompany the concurrent program name in the Requests window.

Alert Type	Periodic
Periodicity	Every N Calendar Days
Inputs	Application Name
	Concurrent Program Name
	Number of days since concurrent request was submitted to the Concurrent Manager
Operating System Program	Deletes log file, out file, and corresponding record of each concurrent request
Arguments	Concurrent request ID

Oracle Alert Purge Mail Alert

One of the Oracle Alert precoded alerts is designed to help you keep your Oracle Office folders to a manageable size. In particular, if you are using response processing, you will want to keep your response account(s) clear of old messages. While using Oracle Alert you should be able to:

- Automatically delete old, obsolete mail messages from your defined Oracle Alert Oracle Office accounts
- Specify which Oracle Office accounts and the Oracle Office folders you want to clear of old messages
- Determine which messages you want to delete

Customizable Alert Frequencies

You determine the schedule for running your alert. On the schedule you define, Oracle Alert submits the purge mail alert to the Concurrent Manager.

Customizable Alert Inputs

Use inputs to tell Oracle Alert which Oracle Office account, which mail folders, and which messages to purge. You define your input values at

the action set level, so you can create multiple action sets that target different mail accounts and different mail folders. You can create as many action sets as you need to keep your mail accounts up–to–date.

Oracle Alert Purge Mail Alert Description

The following description provides the customizable frequency and inputs of the purge mail alert.

Purge Oracle Office Messages

Frequency	Weekly
Inputs	Expiration Days
	Folder
	Oracle Office Account

APPENDIX

C Loaders

This appendix lists the loader programs that the system administrator can use.

Generic Loader

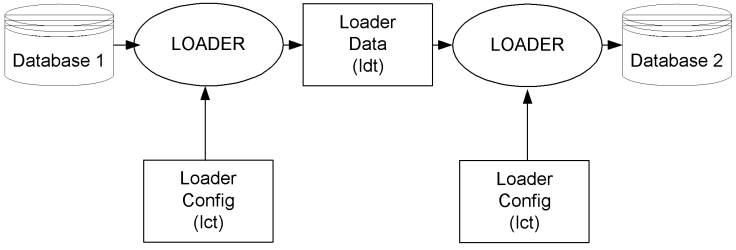
The Generic Loader (FNDLOAD) is a concurrent program that can move Oracle Applications data between database and text file representations. The loader reads a configuration file to determine what data to access. For information on specific configuration files consult the *Open Interfaces Guide* for your product group. The following sections describe the operation of the Generic Loader.

Warning: Use only the loader files provided by Oracle Applications. If you use files not provided by Oracle Applications or modify the provided scripts you risk corrupting your database. Oracle does not support the use of custom loader files or modified Oracle Applications loader files.

Overview

The Generic Loader can download data from an application entity into a portable, editable text file. This file can then be uploaded into any other database to copy the data. Conversion between database store and file format is specified by a configuration file that is read by the loader.

In the following diagram, the Generic Loader downloads data from a database according to a configuration (.lct) file, and converts the data into a data file (.ldt file). The Generic Loader can then upload this data to another database using a configuration file.



The loader operates in one of two modes: download or upload. In the download mode, data is downloaded from the database to a text file; in the upload mode, data is uploaded from a text file to the database.

Data structures supported by the loader include master–detail relationships and foreign key reference relationships.

In both downloading and uploading, the structure of the data involved is described by a configuration file. The configuration file describes the structure of the data and also the access methods to use to copy the data into or out of the database. The same configuration file may be used for both uploading and downloading.

When downloading, the Generic Loader creates a second file, called the data file, that contains the structured data selected for downloading. The data file has a standard syntax for representing the data that has been downloaded. When uploading, the Generic Loader reads a data file to get the data that it is to upload. In most cases, the data file was produced by a previous download, but may have come from another source. The data file cannot be interpreted without the corresponding configuration file available.

Download database information to a text file

The text file is human–readable and portable, and can be examined and modified with any editor. Generally, a "developer key" is used to identify records written out to text files. For example, the PROFILE_OPTION_NAME, not the PROFILE_OPTION_ID, is used to identify records in the Profiles configuration file.

Upload (merge) the information in a text file to the database

In uploading, if a row exists, but has different attributes, the row is updated. If a row does not exist, a new row is inserted.

Depending on the configuration file, a row that exists in the database but not in the text file may or may not be deleted when the text file is uploaded. Refer to the configuration file to determine how such rows are handled.

These download and upload capabilities allow profile value information that is defined in one database to be easily propagated to other databases. This is useful for delivering Oracle Applications seed data to customers, as well as for copying customer profile definitions from a primary site to other sites.

The text file version of profile value data is also useful for bulk editing operations, which can be accomplished more efficiently with a text editor than with a form.

FNDLOAD Executable

The Generic Loader is a concurrent program named FNDLOAD. The concurrent executable takes the following parameters:

```
FNDLOAD apps/pwd 0 Y mode configfile datafile entity
[ param ... ]
```

where

<apps/pwd>	The APPS schema and password in the form username/password[@connect_string]. If connect_string is omitted, it is taken in a platform–specific manner from the environment using the name TWO_TASK.
< 0 Y >	Concurrent program flags
mode	UPLOAD or DOWNLOAD. UPLOAD causes the datafile to be uploaded to the database. DOWNLOAD causes the loader to fetch rows and write them to the datafile.
<configfile>	The configuration file to use (usually with a suffix of .lct, but not enforced or supplied by the loader).
<datafile>	The data file to write (usually with a suffix of .ldt, but not enforced or supplied by the loader). If the data file already exists, it will be overwritten.
<entity>	The entity(ies) to upload or download. When uploading, you should always upload all entities, so specify a "–" to upload all entities.
< [param] >	Zero or more additional parameters are used to provide bind values in the access SQL (both UPLOAD and DOWNLOAD). Each parameter is in the form NAME=VALUE. NAME should not conflict with an attribute name for the entities being loaded.

File Specifications

The configuration file and data file parameters are specified in one of two ways:

```
@<application_short_name>:[<dir>/.../]file.ext
```

For example,

```
@fnd/11i/loader/fndapp.lct
@po:install/data/poreq.ldt
```

Alternatively, the parameters can be specified as such:

```
<native path>
```

For example,

```
mydata.ldt
c:\loader\config\cfg102.lct
```

Examples

An example of downloading is:

```
FNDLOAD apps/apps@devdb 0 Y
     DOWNLOAD testcfg.lct out.ldt FND_APPLICATION_TL
APPSNAME=FND
```

This command does the following:

- connects to apps/apps@devd
- downloads data using the configuration file testcfg.lct
- writes data to data file out.ldt
- downloads the FND_APPLICATION_TL entity with APPSNAME parameter defined as value 'FND'

An example of uploading is:

```
FNDLOAD apps/apps@custdb 0 Y
     UPLOAD fndapp.lct fnd1234.ldt –
```

This command does the following:

- connects to apps/apps@custdb
- uploads data using the configuration file in fndapp.lct from data file in fnd1234.ldt
- The contents of the entire data file is uploaded.

Configuration File

Operation of the Generic Loader is controlled by the specified configuration file. The configuration file contains the following:

- DEFINE block
- DOWNLOAD block
- UPLOAD block

The contents of the configuration file specify the structure of the data and the access methods to use to move the data between the data file and a database.

DEFINE Block

The DEFINE block specifies the structure of the datafile records. The define block format is identical to that already generated by existing AOL loaders. The structure of this section is

```
DEFINE <entity>
   KEY <key_attribute_name> <datatype>
   ...
   (BASE|TRANS|CTX) <attribute_name> <datatype>
   ...
   [DEFINE <child_entity> ...]
END <entity>
```

Example

```
DEFINE FND_LOOKUP_TYPE
   KEY         VIEW_APPSNAME     VARCHAR2(50)
   KEY         LOOKUP_TYPE       VARCHAR2(30)
   BASE        OWNER             VARCHAR2(6)
   TRANS       MEANING           VARCHAR2(80)
   TRANS       DESCRIPTION       VARCHAR2(240)
   DEFINE FND_LOOKUP_VALUE
     KEY LOOKUP_CODE       VARCHAR2(30)
     BASEEND_DATE_ACTIVE   VARCHAR2(10)
     BASEOWNER             VARCHAR2(6)
     TRANS     MEANING           VARCHAR2(80)
     TRANS     DESCRIPTION       VARCHAR2(240)
     CTX TAG               VARCHAR2(30)
     END FND_LOOKUP_VALUE
   END FND_LOOKUP_TYPE
VIEW_APPSNAME
```

One or more KEY attributes defines the primary key of each entity. BASE and CTX attributes are those that do not require translation. TRANS attributes do. Note that BASE and CTX attributes are treated identically. That is, CTX is just a synonym for BASE. The CTX attribute type is provided merely to allow users to optionally differentiate between BASE attributes. For example, translators may wish to simplify their .ldt files by stripping out the BASE attributes. However, they may also want to keep some BASE attributes for context. By denoting some attributes as BASE and some as CTX, they can control which attributes to remove.

Data types can be standard Oracle scalar types, except that only VARCHAR2 is currently supported. An attribute can also be defined as a foreign key reference to another entity in your configuration file

The foreign key entity must be a ”top–level” entity and its download statement must include filter parameters in its WHERE clause for each of its key attributes. Also, the parameter names must match the key attribute names exactly.

Note that entity definitions can be nested to indicate master–detail relationships. Nested entity definitions inherit the key attributes of their parent entities and should not redefine them.

DOWNLOAD Statement

The DOWNLOAD statement is a SQL statement that selects rows to download. The statement can join to other tables to resolve sequence generated ID numbers into developer keys where possible. The DOWNLOAD statement may also contain bind values of the form ':NAME' which are substituted with parameter values from the command line. DOWNLOAD statements have the form

```
DOWNLOAD <entity>
   ”select <attribute expressions> from ...”
```

Example

```
DOWNLOAD FND_LOOKUP_TYPE
  ”select VA.APPLICATION_SHORT_NAME VIEW_APPSNAME,
   LT.LOOKUP_TYPE,
   OA.APPLICATION_SHORT_NAME,
   LT.CUSTOMIZATION_LEVEL,
   decode(LT.LAST_UPDATED_BY, 1, 'SEED', 'CUSTOM')
OWNER,
   LT.MEANING,
   LT.DESCRIPTION
   from   FND_LOOKUP_TYPES_VL LT,
   FND_APPLICATION VA,
   FND_APPLICATION OA,
   FND_SECURITY_GROUPS SG
   where  VA.APPLICATION_ID = LT.VIEW_APPLICATION_ID

   and    OA.APPLICATION_ID = LT.APPLICATION_ID
```

```
   and    (:VIEW_APPSNAME is null or
     (:VIEW_APPSNAME is not null
   and VA.APPLICATION_SHORT_NAME like
:VIEW_APPSNAME))
   and    (:LOOKUP_TYPE is null or
      (LOOKUP_TYPE is not null and LT.LOOKUP_TYPE
like :LOOKUP_TYPE))
   and    SG.SECURITY_GROUP_ID = LT.SECURITY_GROUP_ID

   and    ((:SECURITY_GROUP is null and
SG.SECURITY_GROUP_KEY = 'STANDARD') or
     (:SECURITY_GROUP is not null
   and SG.SECURITY_GROUP_KEY = :SECURITY_GROUP))
   order by 1, 2 "
```

Download statements for child entities may reference any key attribute of the parent entity, or any command line parameter.

UPLOAD Statement

The UPLOAD statement is a SQL statement or PL/SQL anonymous block which accepts file data and applies it to the database. The statement is executed once for each record read from the data file. Bind values in the statement are satisfied by attributes from the file data or command line parameters.

Example

```
UPLOAD FND_LOOKUP_TYPE
   BEGIN
   " begin
     if (:UPLOAD_MODE = 'NLS') then
       fnd_lookup_types_pkg.TRANSLATE_ROW(
     x_lookup_type  => :LOOKUP_TYPE,
     x_security_group      => :SECURITY_GROUP,
     x_view_application    => :VIEW_APPSNAME,
     x_owner        => :OWNER,
     x_meaning      => :MEANING,
     x_description  => :DESCRIPTION);
     else
     fnd_lookup_types_pkg.LOAD_ROW(
     x_lookup_type  => :LOOKUP_TYPE,
```

```
    x_security_group      => :SECURITY_GROUP,
    x_view_application    => :VIEW_APPSNAME,
    x_owner        => :OWNER,
    x_meaning      => :MEANING,
    x_description  => :DESCRIPTION);
    end if;
    end; "
```

As in the DOWNLOAD, the UPLOAD statement for child entities may reference any attributes from the parent record.

Example

```
UPLOAD FND_LOOKUP_VALUE
  " begin
   if (:UPLOAD_MODE = 'NLS') then
     fnd_lookup_values_pkg.TRANSLATE_ROW(
       x_lookup_type  => :LOOKUP_TYPE,
       x_lookup_code  => :LOOKUP_CODE,
       x_security_group      => :SECURITY_GROUP,
       x_view_application    => :VIEW_APPSNAME,
       x_owner        => :OWNER,
       x_meaning      => :MEANING,
       x_description  => :DESCRIPTION);
   else
     fnd_lookup_values_pkg.LOAD_ROW(
       x_lookup_type  => :LOOKUP_TYPE,
       x_lookup_code  => :LOOKUP_CODE,
       x_security_group      => :SECURITY_GROUP,
       x_view_application    => :VIEW_APPSNAME,
       x_owner        => :OWNER,
       x_meaning      => :MEANING,
       x_description  => :DESCRIPTION,
       x_tag   => :TAG);
   end if;
  end;"
```

Data File

A data file is a portable text file. The data file created from a download using the above configuration file would include:

```
# -- Begin Entity Definitions --

DEFINE FND_LOOKUP_TYPE
   KEY   VIEW_APPSNAME VARCHAR2(50)
   KEY   LOOKUP_TYPE VARCHAR2(30)
   BASE  OWNER VARCHAR2(6)
   TRANS MEANING VARCHAR2(80)
   TRANS DESCRIPTION VARCHAR2(240)
   DEFINE FND_LOOKUP_VALUE
     KEY   LOOKUP_CODE VARCHAR2(30)
     BASE  END_DATE_ACTIVE VARCHAR2(10)
     BASE  OWNER VARCHAR2(6)
     TRANS MEANING VARCHAR2(80)
     TRANS DESCRIPTION VARCHAR2(240)
     BASE  TAG VARCHAR2(30)
   END FND_LOOKUP_VALUE
 END FND_LOOKUP_TYPE

 # -- End Entity Definitions --

BEGIN FND_LOOKUP_TYPE "FND" "YES_NO"
   OWNER = "SEED"
   MEANING = "Yes or No"

   BEGIN FND_LOOKUP_VALUE Y
     OWNER = "SEED"
     MEANING = "Yes"
   END FND_LOOKUP_VALUE

   BEGIN FND_LOOKUP_VALUE N
     OWNER = "SEED"
     MEANING = "No"
   END FND_LOOKUP_VALUE
END FND_LOOKUP_TYPE
```

Application Object Library Configuration Files

Oracle Application Object Library provides several configuration files for the Generic Loader that you can use with your setup data.

These configuration files operate on the following data:

- Concurrent program definitions
- Request groups
- Lookup types and lookup values
- Profile options and profile option values
- Flexfields setup data
- Attachments definitions
- Messages

Concurrent Program Configuration File

The concurrent program configuration file afcpprog.lct downloads and uploads concurrent program definitions. It takes as parameters program name and application name.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
PROGRAM	INCOMPATIBILITY	CONCURRENT_PROGRAM_NAME APPLICATION_SHORT_NAME
EXECUTABLE		EXECUTABLE_NAME

The entity definition is:

```
DEFINE PROGRAM
  KEY   CONCURRENT_PROGRAM_NAME         VARCHAR2(30)
  KEY   APPLICATION                     VARCHAR2(50)
  CTX   OWNER                           VARCHAR2(7)
  TRANS USER_CONCURRENT_PROGRAM_NAME    VARCHAR2(240)
  BASE  EXEC_APPLICATION                VARCHAR2(50)
  BASE  EXECUTABLE_NAME                 VARCHAR2(30)
  BASE  EXECUTION_METHOD_CODE           VARCHAR2(1)
  BASE  ARGUMENT_METHOD_CODE            VARCHAR2(1)
  BASE  QUEUE_CONTROL_FLAG              VARCHAR2(1)
  BASE  QUEUE_METHOD_CODE               VARCHAR2(1)
  BASE  REQUEST_SET_FLAG                VARCHAR2(1)
  BASE  ENABLED_FLAG                    VARCHAR2(1)
  BASE  PRINT_FLAG                      VARCHAR2(1)
  BASE  RUN_ALONE_FLAG                  VARCHAR2(1)
  BASE  SRS_FLAG                        VARCHAR2(1)
  TRANS DESCRIPTION                     VARCHAR2(240)
  BASE  CLASS_APPLICATION               VARCHAR2(50)
  BASE  CONCURRENT_CLASS_NAME           VARCHAR2(30)
  BASE  EXECUTION_OPTIONS               VARCHAR2(250)
  BASE  SAVE_OUTPUT_FLAG                VARCHAR2(1)
  BASE  REQUIRED_STYLE                  VARCHAR2(1)
  BASE  OUTPUT_PRINT_STYLE              VARCHAR2(30)
  BASE  PRINTER_NAME                    VARCHAR2(30)
```

```
  BASE  MINIMUM_WIDTH                  VARCHAR2(50)
  BASE  MINIMUM_LENGTH                 VARCHAR2(50)
  BASE  REQUEST_PRIORITY               VARCHAR2(50)
  BASE  ATTRIBUTE_CATEGORY             VARCHAR2(30)
  BASE  ATTRIBUTE1                     VARCHAR2(150)
  BASE  ATTRIBUTE2                     VARCHAR2(150)
  BASE  ATTRIBUTE3                     VARCHAR2(150)
  BASE  ATTRIBUTE4                     VARCHAR2(150)
  BASE  ATTRIBUTE5                     VARCHAR2(150)
  BASE  ATTRIBUTE6                     VARCHAR2(150)
  BASE  ATTRIBUTE7                     VARCHAR2(150)
  BASE  ATTRIBUTE8                     VARCHAR2(150)
  BASE  ATTRIBUTE9                     VARCHAR2(150)
  BASE  ATTRIBUTE10                    VARCHAR2(150)
  BASE  ATTRIBUTE11                    VARCHAR2(150)
  BASE  ATTRIBUTE12                    VARCHAR2(150)
  BASE  ATTRIBUTE13                    VARCHAR2(150)
  BASE  ATTRIBUTE14                    VARCHAR2(150)
  BASE  ATTRIBUTE15                    VARCHAR2(150)
  BASE  OUTPUT_FILE_TYPE               VARCHAR2(4)
  BASE  RESTART                        VARCHAR2(1)
  BASE  NLS_COMPLIANT                  VARCHAR2(1)
  BASE  CD_PARAMETER                   VARCHAR2(240)
  BASE  INCREMENT_PROC                 VARCHAR2(61)
  BASE  MLS_EXECUTABLE_APPLICATION     VARCHAR2(50)
  BASE  MLS_EXECUTABLE_NAME            VARCHAR2(50)
  BASE  ENABLE_TIME_STATISTICS         VARCHAR2(1)
  BASE  SECURITY_GROUP_NAME            NUMBER
  BASE  RESOURCE_CONSUMER_GROUP        VARCHAR2(30)
  BASE  ROLLBACK_SEGMENT               VARCHAR2(30)
  BASE  OPTIMIZER_MODE                 VARCHAR2(30)
END PROGRAM
```

Request Groups Configuration File

Use the file afcpreqg.lct for loading request group data.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
REQUEST_GROUP	REQUEST_GROUP_ UNIT	REQUEST_GROUP_NAME APPLICATION_SHORT_NAME

The entity definition is:

```
DEFINE REQUEST_GROUP
  KEY   REQUEST_GROUP_NAME        VARCHAR2(30)
  KEY   APPLICATION_SHORT_NAME    VARCHAR2(50)
  CTX   OWNER                     VARCHAR2(7)
  TRANS DESCRIPTION               VARCHAR2(800)
  BASE  REQUEST_GROUP_CODE        VARCHAR2(30)
END REQUEST_GROUP
```

Lookups Configuration File

Use the file aflvmlu.lct for loading Lookup types and Lookups values.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
FND_LOOKUP_TYPE	FND_LOOKUP_VALUE	VIEW_APPSNAME LOOKUP_TYPE SECURITY_GROUP

The entity definition is:

```
DEFINE FND_LOOKUP_TYPE
  KEY   VIEW_APPSNAME                    VARCHAR2(50)
  KEY   LOOKUP_TYPE                      VARCHAR2(30)
  CTX   APPLICATION_SHORT_NAME           VARCHAR2(50)
  BASE  CUSTOMIZATION_LEVEL              VARCHAR2(1)
  CTX   OWNER                            VARCHAR2(6)
  TRANS MEANING                          VARCHAR2(80)
  TRANS DESCRIPTION                      VARCHAR2(240)

  DEFINE FND_LOOKUP_VALUE
    KEY   LOOKUP_CODE                    VARCHAR2(30)
    BASE  ENABLED_FLAG                   VARCHAR2(1)
    BASE  START_DATE_ACTIVE              VARCHAR2(10)
    BASE  END_DATE_ACTIVE                VARCHAR2(10)
    BASE  TERRITORY_CODE                 VARCHAR2(2)
    BASE  TAG
VARCHAR2(30)
    BASE  ATTRIBUTE_CATEGORY             VARCHAR2(30)
    BASE  ATTRIBUTE1                     VARCHAR2(150)
    BASE  ATTRIBUTE2                     VARCHAR2(150)
    BASE  ATTRIBUTE3                     VARCHAR2(150)
    BASE  ATTRIBUTE4                     VARCHAR2(150)
    BASE  ATTRIBUTE5                     VARCHAR2(150)
    BASE  ATTRIBUTE6                     VARCHAR2(150)
    BASE  ATTRIBUTE7                     VARCHAR2(150)
    BASE  ATTRIBUTE8                     VARCHAR2(150)
    BASE  ATTRIBUTE9                     VARCHAR2(150)
```

```
      BASE  ATTRIBUTE10                VARCHAR2(150)
      BASE  ATTRIBUTE11                VARCHAR2(150)
      BASE  ATTRIBUTE12                VARCHAR2(150)
      BASE  ATTRIBUTE13                VARCHAR2(150)
      BASE  ATTRIBUTE14                VARCHAR2(150)
      BASE  ATTRIBUTE15                VARCHAR2(150)
      CTX   OWNER                      VARCHAR2(6)
      TRANS MEANING                    VARCHAR2(80)
      TRANS DESCRIPTION                VARCHAR2(240)
    END FND_LOOKUP_VALUE
END FND_LOOKUP_TYPE
```

Profile Options and Profile Values Configuration File

Use the file afscprof.lct for loading profile options and profile values.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
PROFILE	FND_PROFILE_ OPTION_VALUES	PROFILE_NAME APPLICATION_SHORT_NAME

The entity definition is:

```
DEFINE PROFILE
  KEY   PROFILE_NAME                    VARCHAR2(80)
  CTX   OWNER                           VARCHAR2(7)
  CTX   APPLICATION_SHORT_NAME          VARCHAR2(50)
  TRANS USER_PROFILE_OPTION_NAME        VARCHAR2(240)
  TRANS DESCRIPTION                     VARCHAR2(240)
  BASE  USER_CHANGEABLE_FLAG            VARCHAR2(1)
  BASE  USER_VISIBLE_FLAG               VARCHAR2(1)
  BASE  READ_ALLOWED_FLAG               VARCHAR2(1)
  BASE  WRITE_ALLOWED_FLAG              VARCHAR2(1)
  BASE  SITE_ENABLED_FLAG               VARCHAR2(1)
  BASE  SITE_UPDATE_ALLOWED_FLAG        VARCHAR2(1)
  BASE  APP_ENABLED_FLAG                VARCHAR2(1)
  BASE  APP_UPDATE_ALLOWED_FLAG         VARCHAR2(1)
  BASE  RESP_ENABLED_FLAG               VARCHAR2(1)
  BASE  RESP_UPDATE_ALLOWED_FLAG        VARCHAR2(1)
  BASE  USER_ENABLED_FLAG               VARCHAR2(1)
  BASE  USER_UPDATE_ALLOWED_FLAG        VARCHAR2(1)
  BASE  START_DATE_ACTIVE               VARCHAR2(11)
  BASE  END_DATE_ACTIVE                 VARCHAR2(11)
  BASE  SQL_VALIDATION                  VARCHAR2(2000)

  DEFINE FND_PROFILE_OPTION_VALUES
    KEY   LEVEL                         VARCHAR2(50)
    KEY   LEVEL_VALUE                   VARCHAR2(100)
    KEY   LEVEL_VALUE_APP               VARCHAR2(50)
    CTX   OWNER                         VARCHAR2(7)
    BASE  PROFILE_OPTION_VALUE          VARCHAR2(240)
```

```
  END FND_PROFILE_OPTION_VALUES
END PROFILE
```

Flexfields Setup Data Configuration File

Use the file afffload.lct for loading flexfields data.

Warning: Do not modify the data files you download using the flexfields configuration file. You risk corrupting your flexfields data. Oracle Applications does not support any changes you make to the data files.

The configuration file includes the following entities:

- Value sets
- Descriptive flexfields
- Key flexfield definitions
- Security rules
- Rollup groups
- Value set values

Flexfield Value Sets

The entity VALUE_SET includes the following table details of table validated value sets, and user exit details of special / pair validated value sets. It does not include the values, security rules, rollup groups, or value hierarchies for the value set. These entities should be downloaded and uploaded separately.

The key for this entity is FLEX_VALUE_SET_NAME.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

>VALUE_SET FLEX_VALUE_SET_NAME="Loader_Test">FNDLOAD
 apps/apps 0 Y UPLOAD
 @FND:admin/import/afffload.lct out.ldt –
```

Descriptive Flexfields

The entity DESC_FLEX includes context column, attribute columns, context, and segment details. This entity references the VALUE_SET for the value set used by a given SEGMENT.

The key is composed of APPLICATION_SHORT_NAME and DESCRIPTIVE_FLEXFIELD_NAME.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

DESC_FLEX APPLICATION_SHORT_NAME="FND"
DESCRIPTIVE_FLEXFIELD_NAME="FND_FLEX_TEST"

>FNDLOAD apps/apps 0 Y UPLOAD
@FND:admin/import/afffload.lct out.ldt -
```

Key Flexfields

The entity KEY_FLEX includes the unique ID column, structure column, segment columns, flexfield qualifier, segment qualifier, structure, Account Generator workflow process, shorthand alias, cross–validation rule, cross–validation rule line, segment, flexfield qualifier assignment, and segment qualifier assignment details.

References VALUE_SET for the value set used by the given segment.

The key is composed of APPLICATION_SHORT_NAME and ID_FLEX_CODE.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

KEY_FLEX APPLICATION_SHORT_NAME="SQLGL"
ID_FLEX_CODE="GL#"

>FNDLOAD apps/apps 0 Y UPLOAD
@FND:admin/import/afffload.lct out.ldt -
```

Flexfield Value Security Rules

The entity VALUE_SECURITY_RULE includes security rules, security rule lines, and security rule usage details.

It references VALUE_SET for the value set.

The key is composed of FLEX_VALUE_SET_NAME, FLEX_VALUE_RULE_NAME, and PARENT_FLEX_VALUE_LOW.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

VALUE_SECURITY_RULE FLEX_VALUE_SET_NAME="Loader_Test"
FLEX_VALUE_RULE_NAME="%" \

PARENT_FLEX_VALUE_LOW="%"

>FNDLOAD apps/apps 0 Y UPLOAD
@FND:admin/import/afffload.lct out.ldt -
```

Flexfields Value Hierarchies (Rollup Groups)

The entity VALUE_ROLLUP_GROUP contains rollup groups.

It references VALUE_SET for the value set.

The key is composed of FLEX_VALUE_SET_NAME and HIERARCHY_CODE.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

VALUE_ROLLUP_GROUP FLEX_VALUE_SET_NAME="Loader_Test"
HIERARCHY_CODE="%"

>FNDLOAD apps/apps 0 Y UPLOAD
@FND:admin/import/afffload.lct out.ldt -
```

Flexfields Values

The entity VALUE_SET_VALUE includes the normalized value hierarchy and value qualifier value details.

It references VALUE_SET for the value set.

It references VALUE_ROLLUP_GROUP for the value hierarchy.

The key is composed of FLEX_VALUE_SET_NAME and PARENT_FLEX_VALUE_LOW, FLEX_VALUE.

Example

```
>FNDLOAD apps/apps 0 Y DOWNLOAD
@FND:admin/import/afffload.lct out.ldt \

VALUE_SET_VALUE FLEX_VALUE_SET_NAME="Loader_Test"
PARENT_FLEX_VALUE_LOW="%" \

FLEX_VALUE="%"

     >FNDLOAD apps/apps 0 Y UPLOAD
@FND:admin/import/afffload.lct out.ldt -
```

Attachments Setup Data Configuration File

Use the file afattach.lct for loading attachments setup data.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
FND_ATTACHMENT_FUNCTIONS	FND_ATTACHMENT_BLOCKS FND_ATTACHMENT_BLOCK_ENTITIES FND_DOC_CATEGORY_USAGES	APPLICATION_SHORT_NAME FUNCTION_NAME FUNCTION_TYPE

The entity definitions are:

```
DEFINE FND_ATTACHMENT_FUNCTIONS
  KEY   FUNCTION_NAME                    VARCHAR2(30)
  KEY   FUNCTION_TYPE                    VARCHAR2(1)
  KEY   APP_SHORT_NAME                   VARCHAR2(50)
  CTX   OWNER                            VARCHAR2(7)
  BASE  SESSION_CONTEXT_FIELD            VARCHAR2(61)
  BASE  ENABLED_FLAG                     VARCHAR2(1)

  DEFINE FND_ATTACHMENT_BLOCKS
    KEY   BLOCK_NAME                     VARCHAR2(30)
    CTX   OWNER                          VARCHAR2(7)
    BASE  QUERY_FLAG                     VARCHAR2(1)
    BASE  SECURITY_TYPE                  VARCHAR2(50)
    BASE  ORG_CONTEXT_FIELD              VARCHAR2(61)
    BASE  SET_OF_BOOKS_CONTEXT_FIELD     VARCHAR2(61)
    BASE  BUSINESS_UNIT_CONTEXT_FIELD    VARCHAR2(61)
    BASE  CONTEXT1_FIELD                 VARCHAR2(61)
    BASE  CONTEXT2_FIELD                 VARCHAR2(61)
    BASE  CONTEXT3_FIELD                 VARCHAR2(61)

    DEFINE FND_ATTACHMENT_BLK_ENTITIES
   KEY   BLK_ENTITY        REFERENCES
FND_DOCUMENT_ENTITIES
   BASE  DISPLAY_METHOD                  VARCHAR2(1)
   BASE  INCLUDE_IN_INDICATOR_FLAG       VARCHAR2(1)
   CTX   OWNER                           VARCHAR2(7)
```

```
    BASE  PK1_FIELD                    VARCHAR2(61)
    BASE  PK2_FIELD                    VARCHAR2(61)
    BASE  PK3_FIELD                    VARCHAR2(61)
    BASE  PK4_FIELD                    VARCHAR2(61)
    BASE  PK5_FIELD                    VARCHAR2(61)
    BASE  SQL_STATEMENT                VARCHAR2(2000)
    BASE  INDICATOR_IN_VIEW_FLAG       VARCHAR2(1)
    BASE  QUERY_PERMISSION_TYPE        VARCHAR2(1)
    BASE  INSERT_PERMISSION_TYPE       VARCHAR2(1)
    BASE  UPDATE_PERMISSION_TYPE       VARCHAR2(1)
    BASE  DELETE_PERMISSION_TYPE       VARCHAR2(1)
    BASE  CONDITION_FIELD              VARCHAR2(61)
        BASE  CONDITION_OPERATOR       VARCHAR2(50)
    BASE  CONDITION_VALUE1             VARCHAR2(100)
    BASE  CONDITION_VALUE2             VARCHAR2(100)
     END FND_ATTACHMENT_BLK_ENTITIES
  END FND_ATTACHMENT_BLOCKS

  DEFINE FND_DOC_CATEGORY_USAGES
    KEY  CATEGORY_USAGE    REFERENCES
               FND_DOCUMENT_CATEGORIES
    BASE ENABLED_FLAG      VARCHAR2(1)
    CTX  OWNER             VARCHAR2(7)
  END FND_DOC_CATEGORY_USAGES
END FND_ATTACHMENT_FUNCTIONS

DEFINE FND_DOCUMENT_ENTITIES
  KEY   DATA_OBJECT_CODE         VARCHAR2(30)
  BASE  APP_SHORT_NAME           VARCHAR2(50)
  BASE  TABLE_NAME               VARCHAR2(30)
  BASE  ENTITY_NAME              VARCHAR2(40)
  CTX   OWNER                    VARCHAR2(7)
  BASE  PK1_COLUMN               VARCHAR2(30)
  BASE  PK2_COLUMN               VARCHAR2(30)
  BASE  PK3_COLUMN               VARCHAR2(30)
  BASE  PK4_COLUMN               VARCHAR2(30)
  BASE  PK5_COLUMN               VARCHAR2(30)
  TRANS USER_ENTITY_NAME         VARCHAR2(240)
  TRANS USER_ENTITY_PROMPT       VARCHAR2(40)
```

```
END FND_DOCUMENT_ENTITIES

DEFINE FND_DOCUMENT_CATEGORIES
  KEY   CATEGORY_NAME            VARCHAR2(30)
  BASE  APP_SHORT_NAME           VARCHAR2(50)
  CTX   OWNER                    VARCHAR2(7)
  BASE  START_DATE_ACTIVE        VARCHAR2(11)
  BASE  END_DATE_ACTIVE          VARCHAR2(11)
  BASE  ATTRIBUTE_CATEGORY       VARCHAR2(30)
  BASE  ATTRIBUTE1               VARCHAR2(150)
  BASE  ATTRIBUTE2               VARCHAR2(150)
  BASE  ATTRIBUTE3               VARCHAR2(150)
  BASE  ATTRIBUTE4               VARCHAR2(150)
  BASE  ATTRIBUTE5               VARCHAR2(150)
  BASE  ATTRIBUTE6               VARCHAR2(150)
  BASE  ATTRIBUTE7               VARCHAR2(150)
  BASE  ATTRIBUTE8               VARCHAR2(150)
  BASE  ATTRIBUTE9               VARCHAR2(150)
  BASE  ATTRIBUTE10              VARCHAR2(150)
  BASE  ATTRIBUTE11              VARCHAR2(150)
  BASE  ATTRIBUTE12              VARCHAR2(150)
  BASE  ATTRIBUTE13              VARCHAR2(150)
  BASE  ATTRIBUTE14              VARCHAR2(150)
  BASE  ATTRIBUTE15              VARCHAR2(150)
  BASE  DEFAULT_DATATYPE_ID      VARCHAR2(50)
  BASE  APP_SOURCE_VERSION       VARCHAR2(255)
  TRANS USER_NAME                VARCHAR2(255)
END FND_DOCUMENT_CATEGORIES

DEFINE FND_DOCUMENT_DATATYPES
  KEY   DATATYPE_ID              VARCHAR2(50)
  KEY   NAME                     VARCHAR2(30)
  CTX   OWNER                    VARCHAR2(7)
  BASE  START_DATE_ACTIVE        VARCHAR2(11)
  BASE  END_DATE_ACTIVE          VARCHAR2(11)
  TRANS USER_NAME                VARCHAR2(30)
END FND_DOCUMENT_DATATYPES
```

Messages Configuration File

Use the file afmdmsg.lct for uploading and downloading messages in a database.

Use the Generic Loader and afmdmsg.lct for transferring messages between databases only. Use the Message Dictionary Generator for moving messages into binary runtime files and readable text files. See: Message Dictionary Generator: page C – 27.

The following table lists the entities, sub–entities (if any), and download parameters for this configuration file.

Entity	Sub–entities, if any	Download Parameters
FND_NEW_MESSAGES		APPLICATION_SHORT_NAME MESSAGE_NAME

The entity definition is:

> **Note:** to change the language you are downloading, set the environment variable NLS_LANG before running the loader.

```
DEFINE FND_NEW_MESSAGES
  KEY   APPLICATION_SHORT_NAME   VARCHAR2(50)
  KEY   MESSAGE_NAME             VARCHAR2(30)
  CTX   OWNER                    VARCHAR2(7)
  CTX   MESSAGE_NUMBER           VARCHAR2(50)
  TRANS MESSAGE_TEXT             VARCHAR2(2000)
  CTX   DESCRIPTION              VARCHAR2(240)
  CTX   TYPE                     VARCHAR2(30)
  CTX   MAX_LENGTH               NUMBER
END FND_NEW_MESSAGES
```

Message Dictionary Generator

The Message Dictionary Generator (FNDMDGEN) is a concurrent program that generates binary runtime files from the database for Oracle Applications Message Dictionary messages. The following sections describe the operation of the Message Dictionary Generator.

For more information on using the Message Dictionary and creating messages, see the *Oracle Applications Developer's Guide*.

> **Note:** Use the Generic Loader and corresponding configuration file for uploading and downloading message text files into a database.

Message Repositories

Message information is stored in two different repositories, each of which has its own format and serves a specific need. Following is a description for each of the message repositories, including the message attributes they store.

Database

The FND_NEW_MESSAGES table in the database stores all Oracle Applications messages for all languages. Database messages are directly used only by the stored procedure Message Dictionary API. Database message data can be edited using the Messages form.

Database Attributes: `APPLICATION, LANGUAGE, NAME, NUMBER, TEXT, DESCRIPTION`

Runtime

A runtime binary file stores the messages for a single application and a single language. The file is optimized for rapid lookup of individual messages by message NAME.

A runtime file is located in:

`<APPL_TOP>/$APPLMSG/<LANGUAGE>.msb`

where <APPL_TOP> is the application basepath, APPLMSG is an environment variable whose usual value is "mesg", and <LANGUAGE> is the NLS language code (for example: 'US', or 'F'.). A typical message file would be $FND_TOP/mesg/US.msb.

Runtime Attributes: `NAME, NUMBER, TEXT`

Usage

The help that you get when you invoke the Message Dictionary Generator without any program arguments (i.e., `FNDMDGEN dbuser/dbpassword 0 Y`) is:

```
FNDMDGEN <Oracle ID/password> 0 Y <language codename>
[application shortname] [mode] [filename]
```

where mode is:

DB_TO_RUNTIME From Database to Runtime file (.msb)

> **Note:** In Release 11*i* the mode DB_TO_RUNTIME only is supported, unlike in previous releases.

Wildcards

Either <language codename> or [application shortname] can be wildcarded by passing the value "ALL". The following describes how wildcards are used:

From DB Messages come from the FND_NEW_MESSAGES table. Wildcards match all the messages in the database.

To RUNTIME In the case of wildcards, separate runtime files are created for each combination of language and application.

Function Security Loader

The Function Security Loader (FNDSLOAD) is a concurrent program that can move Oracle Applications function security information between database and text file representations. The following sections describe the operation of the Function Security Loader.

Use the Function Security Loader to preserve custom responsibility and menu information across upgrades by downloading files before the upgrade and then uploading them afterward.

Supported Operations

The Function Security Loader allows you to move function security data between the database (where it is used for runtime operation) and a text file representation (where it can be used for distribution). Specifically, you can:

Download database information to a text file

The text file is human–readable and portable, and can be examined and modified with any editor. Generally, a ”developer key” is used to identify records written out to text files. In other words, the FUNCTION_NAME, not the FUNCTION_ID, is used to identify records.

Upload (merge) the information in a text file to the database

If a row is already correct in the database, it is not touched. If a row exists, but has different attributes, the row is updated. If a row does not exist, a new row is inserted. No rows are deleted, even if they are absent from the uploaded file.

These download and upload capabilities allow function security information that is defined in one database to be easily propagated to other databases. This is useful for delivering Oracle Applications seed data to customers, as well as for copying customer function security definitions from a primary site to other sites.

The text file version of function security data is also useful for bulk editing operations, which can be accomplished more efficiently with a text editor than with a form.

Usage

The Function Security Loader takes the following arguments:

```
FNDSLOAD <username/password> 0 Y
  [{ LOCAL <filepath> } |
```

```
  { <appsname> <subdir>/.../<subdir>/<fname>.ext<}]
[UPLOAD | {DOWNLOAD <menuname> ... <menuname>}]
```

where

<username/password> is the APPLSYS account

<appsname> is an application short name or ”LOCAL”

<fname> is the file that will be read or written

<menuname> is a list of menu names to download

The location of the file is determined by the <appsname> and <fname> arguments. <appsname> indicates whether the file is in the install/import directory for a particular application, or whether it is in the local directory. The following table lists the arguments and corresponding locations:

Appsname	File	Location
<APP>	<file>	$<APP_TOP>/install/import/<file>.slt
LOCAL	<file>	<file>

Table 13 – 1 (Page 1 of 1)

Examples

FNDSLOAD applsys/fnd 0 Y FND install/import/sysadmin.slt UPLOAD

references file ”$FND_TOP/install/import/sysadmin.slt”

FNDSLOAD applsys/fnd 0 Y LOCAL sysadmin.slt UPLOAD

references file ”sysadmin.slt”

UPLOAD and DOWNLOAD

The loader works in either upload or download mode. In UPLOAD mode the entire file is read and merged into the database. (Any existing entries for a menu are deleted in favor of the entry list in the file, if conflicts occur.)

In DOWNLOAD mode the menu tree rooted at each <menuname> listed is read from the database and written to the file, along with every

function and form referenced by any menu. Note the <menuname> is the actual menu name, not the User Menu Name.

FNDSLOAD applsys/fnd 0 Y FND sysadmin.slt DOWNLOAD FND_NAVIGATE4.0

will download all menus under ”FND_NAVIGATE4.0” to the file sysadmin.slt

FNDSLOAD applsys/fnd 0 Y FND sysadmin.slt UPLOAD

will upload everything in the file sysadmin.slt to the database

Function Security File Format

Function security information is stored in text file format by writing out a series of ”records” for each form, function, and menu. The file is plain text that can be viewed and edited with any standard text editor. You need to understand this file format only if you plan to edit the file.

The file consists of a series of text lines, each of which must be less than 1024 bytes in length (when written, no line will exceed 80 bytes in length).

A line may be a comment line, meaning it has no effect on the data contained in the file. Comment lines begin with a ”#” and end with a newline.

```
# This is a comment line
```

The information in the file consists of a series of tokens delimited by white space. Note that a token may itself contain a space, in which case it is delimited with double–quote marks. Tokens may not contain non–printing characters unless they are preceded by the ”escape” character, which is a backslash. The following table lists the predefined escapes:

String	Meaning
\e	Escape
\n	Newline
\r	Carriage return
\b	Backspace
\v	Vertical tab

Table 13 – 2 (Page 1 of 2)

String	Meaning
\f	Form feed
\"	The double quote itself
\\	The backslash itself

Table 13 – 2 (Page 2 of 2)

Other escapes consist of octal values preceded by the backslash, as in "\007". If a line is too long to fit within 80 characters, the line is broken into as many "continuation" lines as necessary. A line ending with a single backslash is taken to be continued on the next line. In such a case, the newline following the backslash is ignored, rather than being taken as a white space delimiter. The line following such a line is taken to be a continuation of the "broken" line, and such a line can itself end in a backslash, indicating further continuation. Note that in the case of continuation lines, a leading "#" is not taken as a comment indicator, but rather as part of the continued data item.

The file starts with three lines as follows:

```
LANGUAGE = "AMERICAN"
CODESET = "WE8ISO8859P1"
TRANSLATED = "Y"
```

These lines indicate the NLS_LANG language and codeset of the file and the current translation status of any translated column values.

Then there is a series of object definitions of the format:

```
BEGIN <object type> <object identifier>
 <attribute> = <value>
 ...
BEGIN <sub-object type> <object identifier>
 ...
END <sub-object type>
 ...
END <object type>
```

There are three main object types, and one sub–object type. The main objects are FORMs, FUNCTIONs, and MENUs, and the sub–object is ENTRY. Each object type has some identifier, and then a series of attribute values. If an attribute value is not specified, it is assumed to be NULL.

FORM record

Form information is written out in the following format:

```
BEGIN FORM <app_short_name> <form_name>
 USER_FORM_NAME = "<user_form_name: 80 char
 translated>"
 DESCRIPTION = "<description: 240 char translated>"
END FORM
```

Forms are identified by app_short_name and form_name. A FORM record is written out for each form referenced by the menus being downloaded.

Example:

```
BEGIN FORM SQLGL GLXJEENT
 USER_FORM_NAME = "Enter Journals/Encumbrances    "
 DESCRIPTION = "Enter journals/encumbrances  "
END FORM
```

FUNCTION record

Function information is written out in the following format:

```
BEGIN FUNCTION <function_name>
 FORM = <app_short_name> <form_name>
 TYPE = <type:30 char>
 PARAMETERS = "<parameters: 240 char>"
 USER_FUNCTION_NAME = "<user_function_name: 80 char
 translated>"
 DESCRIPTION = "<description: 240 char translated>"
END FUNCTION
```

Functions are identified by the developer function_name. A FUNCTION record is written out for each function referenced by the menus being downloaded.

Example:

```
BEGIN FUNCTION SQLGL_GLXJEENT_A
 FORM = SQLGL GLXJEENT
 TYPE = FORM
 PARAMETERS = "actual_flag=\"A\"
 HELP_TARGET=\"GLXJEENT_A\""
 USER_FUNCTION_NAME = "Enter Journals"
 DESCRIPTION = "Enter journals"
END FUNCTION
```

MENU record

Menu information is really a compound record that consists of an MENU record, which contains (encloses) some number of ENTRY records. Menu information is formatted as follows:

```
MENU <menu_name>
 USER_MENU_NAME = "<user_menu_name: 80 char
 translated>"
 DESCRIPTION = "<description: 240 char translated>"
 BEGIN ENTRY
  PROMPT = "<prompt: 30 char translated>"
  DESCRIPTION = "<description: 240 char translated>"
  SUBMENU = <sub_menu_name>
  FUNCTION = <function_name>
 END ENTRY
 ... more entry records ...
END MENU
```

Example:

```
MENU GL_SUPERVISOR_GUI
 USER_MENU_NAME = GL_SUPERVISOR_GUI
 BEGIN ENTRY
  PROMPT = Journals
  DESCRIPTION = "Enter and post actual and
   encumbrance journals"
  SUBMENU = GL_SU_JOURNAL_GUI
 END ENTRY
 BEGIN ENTRY
  PROMPT = Budgets
  DESCRIPTION = "Define and enter budgets"
  SUBMENU = GL_SU_BUDGET_GUI
 END ENTRY
 BEGIN ENTRY
  PROMPT = "Run Reports"
  DESCRIPTION = "Run a report"
  FUNCTION = SQLGL_FNDRSRUN_GLMODE
  END ENTRY
END MENU
```

Menus are identified by the developer menu name. Menu entries have no identification per se, but are assumed to be sequenced based on the order in which they are defined, and thus the sequence number forms

an implicit identifier. Each listed menu is downloaded along with all referenced submenus (recursively).

Sample Function Security File

```
#
# $Header$
#
LANGUAGE = "AMERICAN"
CODESET = "WE8ISO8859P1"
TRANSLATED = "Y"
BEGIN FORM FND FNDCPQCR
  USER_FORM_NAME = "View Requests"
  DESCRIPTION = "User form to view personal, explicit
concurrent requests"
END FORM
BEGIN FORM FND FNDPOMSV
  USER_FORM_NAME = "Update Personal Profile Values"
  DESCRIPTION = "User form to set a personal profile
option"
END FORM
BEGIN FORM FND FNDRSRUN
  USER_FORM_NAME = "Run Reports"
END FORM
BEGIN FORM FND FNDCPDIA
  USER_FORM_NAME = "Request Help"
  DESCRIPTION = "Request Diagnostics Form (also View
Reports)"
END FORM
BEGIN FORM FND FNDRSSET
  USER_FORM_NAME = "Administer Report Sets"
  DESCRIPTION = "System Administrator form to
administer all report sets"
END FORM
BEGIN FUNCTION FND_FNDCPQCR
  FORM = FND FNDCPQCR
  TYPE = FORM
  USER_FUNCTION_NAME = "Concurrent Requests: View
All"
```

```
  DESCRIPTION = "Concurrent Requests: View Form"
END FUNCTION
BEGIN FUNCTION FND_FNDPOMSV
  FORM = FND FNDPOMSV
  TYPE = FORM
  USER_FUNCTION_NAME = "Profile User Values"
  DESCRIPTION = "Profile User Values Form"
END FUNCTION
BEGIN FUNCTION FND_FNDRSRUN
  FORM = FND FNDRSRUN
  TYPE = FORM
  USER_FUNCTION_NAME = "Requests: Submit"
  DESCRIPTION = "Requests: Run Form"
END FUNCTION
BEGIN FUNCTION FND_FNDCPDIA_VIEW
  FORM = FND FNDCPDIA
  TYPE = FORM
  PARAMETERS = "MODE=\"VIEW\""
  USER_FUNCTION_NAME = "Concurrent Requests: View
Completed"
  DESCRIPTION = "Concurrent Request Diagnostics Form:
View Requests Mode"
END FUNCTION
BEGIN FUNCTION FND_FNDRSSET_USER
  FORM = FND FNDRSSET
  TYPE = FORM
  PARAMETERS = "MODE=\"USER\""
  USER_FUNCTION_NAME = "Request Sets (User Mode)"
  DESCRIPTION = "Request Sets: User Mode Form"
END FUNCTION
BEGIN MENU GL_SU_MANAGER_GUI
  USER_MENU_NAME = GL_SU_MANAGER_GUI
  DESCRIPTION = "Called by GL_SUPERUSER4.0,
GL_USER4.0, GL_SUPERVISOR4.0, GL_B\
UDGETUSER4.0, GL_BUDGETSUPER4.0"
  BEGIN ENTRY
    PROMPT = Requests
    DESCRIPTION = "Review concurrent manager
requests"
```

```
    FUNCTION = FND_FNDCPQCR
  END ENTRY
  BEGIN ENTRY
    PROMPT = Profile
    DESCRIPTION = "Review personal profile options"
    FUNCTION = FND_FNDPOMSV
  END ENTRY
  BEGIN ENTRY
    PROMPT = Report
    DESCRIPTION = "Group and request standard
reports"
    SUBMENU = FND_REPORT4.0
  END ENTRY
END MENU
BEGIN MENU FND_REPORT4.0
  USER_MENU_NAME = "FND_REPORT 4.0"
  DESCRIPTION = "Standard Report Submission and view
report for Forms 4.0"
  BEGIN ENTRY
    PROMPT = Run
    DESCRIPTION = "Submit requests"
    FUNCTION = FND_FNDRSRUN
  END ENTRY
  BEGIN ENTRY
    PROMPT = View
    DESCRIPTION = "View completed requests"
    FUNCTION = FND_FNDCPDIA_VIEW
  END ENTRY
  BEGIN ENTRY
    PROMPT = Set
    DESCRIPTION = "Define standard request sets"
    FUNCTION = FND_FNDRSSET_USER
  END ENTRY
END MENU
```

Generic File Manager Access Utility (FNDGFU)

The Generic File Manager (GFM) is a set of PL/SQL procedures that leverages Oracle HTTP Server functionality to provide generic upload and download capabilities of unstructured data between a client (usually a web browser) and a database.

FNDGFU is an access utility that allows the upload of files from the local file system to the GFM database file system. It supports simple uploads of single files as well as bulk uploads of many files. FNDGFU also offers a download option that provides a convenient and quick means of retrieving the contents of large objects (LOBs) if the file identifier is known.

To delete files loaded to the database run the Purge Obsolete Generic File Manager Data concurrent program.

Usage

FNDGFU is located in the $FND_TOP/bin directory. Putting this directory on your path will allow you to invoke FNDGFU easily.

Upload files to the GFM

To upload files using FNDGFU use the following syntax:

```
FNDGFU <logon> [param] <filenames>
```

where

<logon> Specifies a standard Oracle logon string of the form username/password. To specify a particular database, append an @ sign and the database SID (@database).

[param] Includes the following parameters (in any order) as appropriate:

PROGRAM_NAME=<name> specifies the name of the program on whose behalf the LOB is to be maintained.

PROGRAM_TAG=<name> specifies the program tag, which is a string used by the GFM client program to further categorize the LOB.

LANGUAGE=<language_code> specifies the language of the file.

PLS_CALLBACK=<plsql procedure> specifies the procedure to execute once for each uploaded file. The procedure must accept `file_id` as its only parameter. FNDGFU will call the specified procedure after each uploaded file, passing in the new file identifier, for example: `PLS_CALLBACK=mypackage.myprocedure`.

CONTENT_TYPE=<mime_type> specifies the default mime type to use for uploaded files not qualified by a content map.

CONTENT_MAP=<contentmapfile> specifies a text file that maps filename suffixes onto content types. The text file consists of lines of the form <suffix>=<mime_type> where suffix is any string matched against the end of the filename. For example:

.txt = text / plain
.html = text / html
.ps = application / postscript

<filenames> Specifies the files to upload. Any number of files may be uploaded.

Download files from the GFM

To download a file using the FNDGFU utility, use the following syntax:

```
FNDGFU <logon> DOWNLOAD=<fileid> [LINE_BREAKS=<mode>]
[filename]
```

where

<logon> Specifies a standard Oracle logon string of the form username / password. To specify a particular database, append an @ sign and the database SID (@database).

<fileid> Specifies the identifier of the large object (LOB) to download.

<mode> Specifies how to treat line breaks for a text document. This parameter is ignored for nontext content. The following values are valid:

LF – Line breaks will be represented using ”/n” in the downloaded output. This is the default mode if the LINE_BREAK parameter is omitted.

CRLF – Line breaks will be left in the canonical format.

[filename] Specifies the file into which to download. If omitted, downloaded contents are streamed to the standard output.

Example of FNDGFU Upload

The FNDGFU utility can be used to upload new or changed help files. Use the following arguments to upload help files:

```
FNDGFU <apps/pwd> 0 Y PROGRAM_NAME=FND_HELP
PROGRAM_TAG=<application>:<custom_level>
CONTENT_TYPE=<mime_type> LANGUAGE=<language_code>
<filenames>
```

where

<apps/pwd> is the APPS schema username/password. To specify a particular database, append an @ sign and the database SID (@database).

<application> is the Application short name.

<custom_level> is the files'customization level. Use the number 100 or above for customized help files. To replace previously uploaded files, use the same customization level when uploading the new files. To override previously uploaded files without deleting them from the database, use a higher customization level.

<mime_type> is the files' MIME type.

<language_code> is the files' language code.

<filenames> is a space–separated list of files to upload, or a filename glob in the current directory.

Enter all arguments on a single command line. They may appear on separate lines here and in the examples that follow depending on the display medium.

Example 1

```
FNDGFU apps/apps@devdb 0 Y PROGRAM_NAME=FND_HELP
PROGRAM_TAG=GL:100 CONTENT_TYPE=text/html LANGUAGE=US
file1.htm file2.htm
```

- connects to apps/apps@devdb
- identifies uploaded files as part of Oracle General Ledger (GL) help

- identifies the uploaded files' customization level as 100
- identifies their MIME type as text/html
- identifies their language as US English (US)
- uploads the two specified .htm files in the current directory (in UNIX)

Example 2

```
FNDGFU apps/apps@custdb 0 Y PROGRAM_NAME=FND_HELP
PROGRAM_TAG=FND:100 CONTENT_TYPE=image/gif *.gif
```

- connects to apps/apps@custdb
- identifies uploaded files as part of Application Object Library (FND) help
- identifies the uploaded files' customization level as 100
- identifies their MIME type as image/gif
- does not identify their language, which defaults to `userenv('LANG')`
- uploads all .gif files in the current directory (in UNIX)

Purging Generic File Manager Data

To purge uploaded files from the Generic File Manager, run the concurrent program, Purge Obsolete Generic File Manager Data.

Program Parameters

Expired

Enter "Y" if you want to purge expired data only. Enter "N" if you want the purge to include all data. The default is "Y."

Program Name

Enter the program name(s) to process. Leave blank to process all programs.

Program Tag

Enter the program tag(s) to process. Leave blank to process all program tags.

APPENDIX

D

Multilingual External Documents

Multilingual External Documents

Oracle Applications ship with a set of external documents, or those documents directed toward your customers and trading partners, for which we model the data multilingually. Any document for which the data model is multilingual can be submitted, through a single request, to run in one language or in any subset of the installed languages. Your Italian customer, for example, can receive invoices printed in Italian, while your Korean customer receives packing slips printed in Korean.

Oracle Shipping

- Bill of Lading
- Commercial Invoice
- Pack Slip

Oracle Order Management

- Price List
- Sales Order Acknowledgment

Oracle Receivables

- Dunning Letter Print
- Print Statements
- Transaction Print

Oracle Purchasing

- Printed Change Order Report (Landscape)
- Printed Change Order Report (Portrait)
- Printed Purchase Order Report (Landscape)
- Printed Purchase Order Report (Portrait)
- Printed RFQ Report (Landscape)
- Printed RFQ Report (Portrait)

Oracle Payables

- Invalid PO Supplier Notice
- Prepayment Remittance Notice

- Print Invoice Notice

Oracle Human Resources

- Full Person Details
- Full Applicant Details
- Full Assignment Details
- Full Work Details

Oracle Payroll

- Check Writer
- Deposit Advice
- Third Party Checks

APPENDIX

E

Character Mode to GUI Appendix

Oracle Applications™ System Administrator's Character Mode Forms and Corresponding GUI Windows

This table shows you System Administration character mode forms and the windows or processes that have the same functionality in the GUI product.

Most windows are accessible when you use the System Administrator responsibility. All Navigation paths below assume you are using that responsibility.

Unless otherwise noted, refer to the *Oracle Applications System Administrator's Guide Release 11i* for more information on GUI windows or processes.

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Administer Concurrent Managers \ Navigate Concurrent Manager Administer	Administer Concurrent Managers window See: Administer Concurrent Managers Navigator: Concurrent > Manager > Administer
Administer Request Sets \ Navigate Concurrent Sets \ Navigate Report Sets	Request Set window See: Request Set *(Oracle Applications User's Guide)* Navigator: Concurrent > Set OR Navigator: Reports > Set
Assign Descriptive Flexfield Security Rules \ Navigate Security Responsibility Flexfield Descriptive Assign	Assign Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Assign In the Find window choose: Descriptive Flexfield
Assign Function Parameters \ Navigate Application Flexfield FlexBuilder Assign	The FlexBuilder feature is replaced by the Account Generator feature using Oracle Workflow See: Account Generator *(Oracle Applications Flexfields Guide)*
Assign Key Flexfield Security Rules \ Navigate Security Responsibility Flexfield Key Assign	Assign Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Assign In the Find window choose: Key Flexfield

Table 13 – 3 (Page 1 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Assign Parameter Security Rules \ Navigate Security Responsibility Report Rules Assign	Assign Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Assign In the Find window choose: Concurrent Program
Assign Printer Drivers \ Navigate Install Printer Driver Assign	Printer Drivers window See: Printer Drivers Navigator: Install > Printer > Driver
Assign Security Rules \ Navigate Security Responsibility ValueSet Assign	Assign Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Assign
Assign Terminal Security \ Navigate Security Responsibility Terminal Assign	Obsolete in GUI
Define Application User \ Navigate Security User Define	Users window See: Users Navigator: Security > User > Define
Define Combined Specialization Rules \ Navigate Concurrent Manager Rule	Combined Specialization Rules window See: Combined Specialization Rules Navigator: Concurrent > Manager > Rule
Define Concurrent Manager \ Navigate Concurrent Manager Define	Concurrent Managers window See: Concurrent Managers Navigator: Concurrent > Manager > Define
Define Concurrent Program \ Navigate Concurrent Program Define	Concurrent Programs window See: Concurrent Programs Navigator: Concurrent > Program > Define
Define Concurrent Program Executable \ Navigate Concurrent Program Executable	Concurrent Program Executable window See: Concurrent Program Executable Navigator: Concurrent > Program > Executable
Define Concurrent Request Types \ Navigate Concurrent Program Types	Concurrent Request Types window See: Concurrent Request Types Navigator: Concurrent > Program > Types

Table 13 – 3 (Page 2 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Define Cross–Validation Rule \ Navigate Application Flexfield Key Cross Validation	Cross–Validation window See: Cross–Validation Rules *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Key > Cross Validation
Define Currency \ Navigate Application Currency	Currencies window See: Defining Currencies *(Oracle Applications General Ledger User's Guide)* Navigator: Application > Currency
Define Data Group \ Navigate Security ORACLE Data Group	Data Groups window See: Data Groups Navigator: Security > ORACLE > DataGroup
Define Descriptive Flexfield Security Rule \ Navigate Security Responsibility Flexfield Descriptive Define	Define Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Define In the Find window choose Descriptive Flexfield
Define Descriptive Flexfield Segments \ Navigate Application Flexfield Descriptive Segments	Descriptive Flexfield Segments window See: Descriptive Flexfield Segments *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Descriptive > Segments
Define Document Categories \ Navigate Application Document Categories	Document Categories window See: Document Categories Navigator: Application > Document > Categories
Define Document Sequences \ Navigate Application Document Define	Document Sequences window See: Document Sequences Navigator: Application > Document > Define
Define FlexBuilder Parameter \ Navigate Application Flexfield FlexBuilder Define	The FlexBuilder feature is replaced by the Account Generator feature using Oracle Workflow See: Account Generator *(Oracle Applications Flexfield Guide)*
Define Help Text \ Navigate Application Text	Obsolete in GUI

Table 13 – 3 (Page 3 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Define Key Flexfield Security Rule \ Navigate Security Responsibility Flexfield Key Define	Define Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Define In the Find window choose Key Flexfield
Define Key Flexfield Segments \ Navigate Application Flexfield Key Segments	Key Flexfield Segments See: Key Flexfield Segments *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Key > Segments
Define Key Segment Values \ Navigate Application Flexfield Key Values	Segment Values window See: Segment Values *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Key > Values
Define Logical Databases \ Navigate Concurrent Databases	Obsolete in Release 11 Logical Databases have been replaced with Concurrent Conflicts Domains See: Concurrent Conflicts Domains Navigator: Concurrent > Conflicts Domains
Define Menu \ Navigate Application Menu	Menus window See: Menus Navigator: Application > Menu
Define Parameter Security Rule \ Navigate Security Responsibility Report Rules Define	Define Security Rules window See: Assign Security Rules *(Oracle Applications Flexfields Guide)* Navigator: Security > Responsibility > ValueSet > Define In the Find window choose Concurrent Program
Define Parameter Values \ Navigate Application Validation Report	Define Value Set Values See: Segment Values *(Oracle Applications Flexfields Guide)* Navigator: Application > Validation > Values In the Find window choose Value Set
Define Print Style \ Navigate Install Printer Style	Print Styles window See: Print Styles Navigator: Install > Printer > Style

Table 13 – 3 (Page 4 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Define Printer Driver \ Navigate Install Printer Driver	Printer Drivers window See: Printer Drivers Navigator: Install > Printer > Driver
Define Printer Types \ Navigate Install Printer Type	Printer Types window See: Printer Types Navigator: Install > Printer > Types
Define Report Group \ Navigate Security Responsibility Report Group	Request Groups window See: Request Groups Navigator: Security > Responsibility > Request
Define Responsibility \ Navigate Security Responsibility Define	Responsibilities window See: Responsibilities Navigator: Security > Responsibility > Define
Define Rollup Groups \ Navigate Application Flexfield Key Groups	Rollup Groups window See: Rollup Groups *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Key > Groups
Define Segment Values \ Navigate Application Validation Values	Segment Values window See: Segment Values *(Oracle Applications Flexfields Guide)* Navigator: Application > Validation > Values or Navigator: Application > Flexfield > Key > Values
Define Shorthand Aliases \ Navigate Application Flexfield Key Aliases	Shorthand Aliases window See: Shorthand Aliases *(Oracle Applications Flexfields Guide)* Navigator: Application > Flexfield > Key > Aliases
Define Terminal Group \ Navigate Security Responsibility Terminal Group	Obsolete in GUI
Define Value Set \ Navigate Application Validation Set	Value Sets window See: Value Sets *(Oracle Applications Flexfields Guide)* Navigator: Application > Validation > Set
Define Work Shifts \ Navigate Concurrent Manager Work Shifts	Work Shifts window See: Work Shifts Navigator: Concurrent > Manager > WorkShifts

Table 13 – 3 (Page 5 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Define Zoom \ Navigate Application Zoom	Obsolete in GUI
Flexbuilder Test Screen \ Navigate Application Flexfield FlexBuilder Test	The FlexBuilder feature is replaced by the Account Generator feature using Oracle Workflow See: Account Generator *(Oracle Applications Flexfield Guide)*
Monitor Application Users \ Navigate Security User Monitor	Monitor Users window See: Monitor Users Navigator: Security > User > Monitor
Register Applications \ Navigate Application Register	Applications window See: Applications Navigator: Application > Register
Register Nodes \ Navigate Install Nodes	Nodes window See: Nodes Navigator: Install > Nodes
Register Oracle IDs \ Navigate Security ORACLE Register	ORACLE Users window See: ORACLE Users Navigator: Security > ORACLE > Register
Register Printers \ Navigate Install Printer Register	Printers See: Printers Navigator: Install > Printer > Register
Register Terminals \ Navigate Install Terminals	Obsolete in GUI
Retrieve Audit Data \ Navigate Security AuditTrail	Obsolete in GUI
Run Reports \ Navigate Report Run	Submit Requests window See: Submit Requests *(Oracle Applications User's Guide)* Navigator: Reports > Run
Update Installation Information \ Navigate Install Information	Obsolete in GUI
Update Personal Profile Options \ Navigate Profile Personal	Personal Profile Values window See: Personal Profile Values *(Oracle Applications Flexfields Guide)* Navigator: Profile > Personal

Table 13 – 3 (Page 6 of 7)

Character Mode Form and Menu Path	GUI Window or Process, and Navigator Path
Update System Profile Options \ Navigate Profile System	System Profile Values window See: System Profile Values Navigator: Profile > System
View Concurrent Requests \ Navigate Concurrent Requests	Requests window See: Viewing Requests *(Oracle Applications User's Guide)* Navigator: Concurrent > Requests Choose: View Output button – to view Request Output View Log button – to view Request Log Use the Menu to choose: Tools > Manager Log – to view Manager Log
View Reports \ Navigate Report View	Requests window See: Viewing Requests *(Oracle Applications User's Guide)* Navigator: Concurrent > Requests Choose: View Output button – to view Request Output View Log button – to view Request Log

Table 13 – 3 (Page 7 of 7)

APPENDIX

F

Implementation Appendix

Setting Up Oracle Applications System Administrator

This section contains an overview of each task you need to complete before you can use any Oracle Applications products.

Oracle Applications Implementation Wizard

If you are implementing more than one Oracle Applications product, you may want to use the Oracle Applications Implementation Wizard to coordinate your setup activities. The Implementation Wizard guides you through the setup steps for the applications you have installed, suggesting a logical sequence that satisfies cross–product implementation dependencies and reduces redundant setup steps. The Wizard also identifies steps that can be completed independently—by several teams working in parallel—to help you manage your implementation process most efficiently.

You can use the Implementation Wizard as a resource center to see a graphical overview of setup steps, read online help for a setup activity, and open the appropriate setup window. You can also document your implementation, for further reference and review, by using the Wizard to record comments for each step.

Oracle Enterprise Manager Tools

Oracle Applications Manager and Oracle Management Pack for Oracle Applications are tools within the Oracle Enterprise Manager framework. These tools are set up separately.

Setup Checklist

After you log aon to Oracle System Administrator, complete the following steps to set up your Oracle Applications:

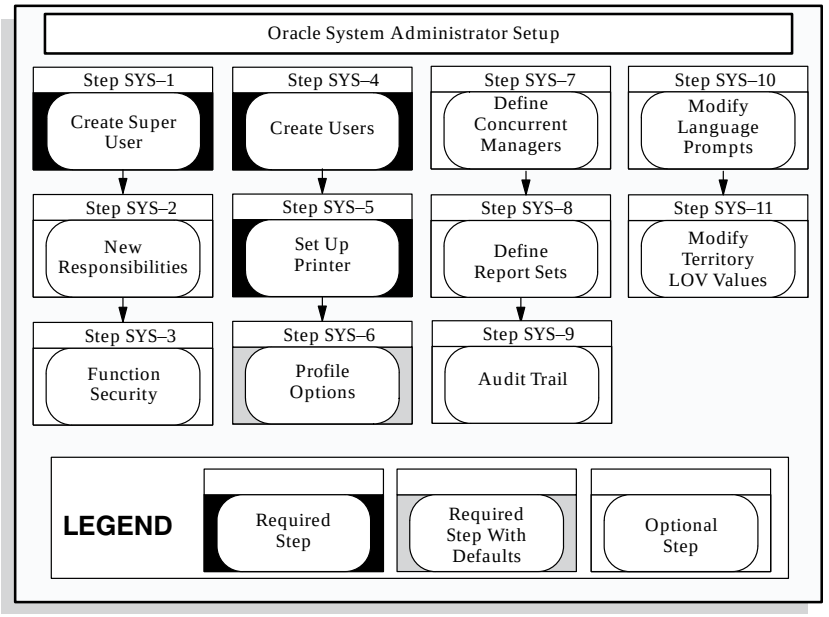
- ❑ Step 1: Create an Oracle Applications User to Complete Setting Up (Required)
- ❑ Step 2: Create New Responsibilities (Optional)
- ❑ Step 3: Implement Function Security (Optional)
- ❑ Step 4: Create Additional Users (Required)
- ❑ Step 5: Set Up Your Printers (Required)
- ❑ Step 6: Specify Your Site–level and Application–level Profile Options (Required with Defaults)

- ❑ Step 7: Define Your Concurrent Managers (Optional)
- ❑ Step 8: Define Report Sets (Optional)
- ❑ Step 9: Set Up AuditTrail (Optional)
- ❑ Step 10: Modify Language Prompts (Optional)
- ❑ Step 11: Modify Territory LOV Values (Optional)

Setup Flowchart

While you can set up Oracle System Administration in many different ways, and defer optional set up steps until you are ready to use the corresponding functionality, we recommend you use the order suggested in the following flowchart:

Figure 13 – 1 Oracle System Administrator Setup



Setup Steps

Step 1 Create an Oracle Applications User to Complete Setting Up

You must create an Oracle Applications user to complete the setup of your applications. You can create one user to set up all of your

applications, or you can define one for each product or group of products.

To log on to Oracle Applications, double–click on the Oracle Applications icon.

The sign–on window appears. Enter user name SYSADMIN and password SYSADMIN to access the system administrator responsibility and choose Connect.

Attention: In some cases, a consultant installing your application may have changed the command, username and / or password to something appropriate to your organization. If so, please refer to your consultant for the correct logon instructions.

To define your user, navigate to the Users window by choosing Security > User > Define from the navigation list. Enter a username (for example, INSTALL) in the User Name field and choose your own password. Oracle Applications asks you to change the password the first time you sign on as this new user. You should enter a description to remind yourself that this user is for the setting up of Oracle Applications.

Set the end date to the current date for each of the users you create in this step. This ensures that no one can access your applications with these usernames later.

Assign responsibilities to your new user. You should assign to your new user the full–function responsibility for each of the applications you install.

See Also

Users Window: page 2 – 16

Step 2 Create New Responsibilities (Optional)

A responsibility in Oracle Applications is a level of authority that determines how much of an application's functionality a user can use, what requests and concurrent programs the user can run, and which applications' data those requests and concurrent programs can access. Oracle Applications provides a set of predefined responsibilities that you can use. You can also define your own responsibilities if the ones provided do not meet your needs.

You associate each responsibility with a data group, request group, and a menu. The data group defines the pairing of application and ORACLE username. The ORACLE username determines the database

tables and table privileges accessible by your responsibility. The request group permits the user with this responsibility to run requests, request sets, or concurrent programs from the Submit Requests form. Select a predefined menu. A menu provides access to application functions through a hierarchical arrangement of functions and menus of functions

Use the Responsibilities window to define a new responsibility. You can then assign your new responsibility to a user using the Users window.

See Also

Responsibilities Window: page 2 – 9

Users Window: page 2 – 16

Step 3 Implement Function Security (Optional)

Function security is the mechanism by which user access to applications functionality is controlled.

Use the Responsibilities form to limit a responsibility's functionality by excluding menus and functions.

Or

Use the Menus form to create new menus that point to functions you want to make available to a responsibility.

See Also

Responsibilities Window: page 2 – 9

Menus Window: page 2 – 36

Step 4 Create Additional Users

You should use the procedure outlined in Step 1 to create additional application users. When you define a new user, you assign one or more responsibilities and a password that the user changes after the initial logon. You can use the LOV in the Responsibility field to get a list of the standard responsibilities for each application you specify. You can assign multiple responsibilities to a user.

See Also

Users Window: page 2 – 16

Step 5 Set Up Your Printers

Read the Setting Up Your Printers page to learn how to set up your printers. You must define any printer types used at your site that are not shipped with Oracle Applications, then register each printer with its name as determined by your operating system.

For every custom printer type or specialized print style you define, use the Printer Drivers form to assign a printer driver to use with each print style used by a printer type.

See Also

Defining Printer Types and Registering Printers: page 6 – 11

Print Styles: page 6 – 11

Printer Drivers: page 6 – 12

Overview of Printers and Printing: page 6 – 2

If you need more information on how to find your printer operating system names, refer to the Printing section of *Installing Oracle Applications*.

Step 6 Specify Your Site–level and Application–level Profile Options

Navigate to the System Profile Values form (Profile > System). In the Find window check Site and Application as your Display levels. Enter System Administration for the Application field and enter Site Name in the Profile field. Oracle Applications displays 'Not Specified' as the site name. Change **Not Specified** to your site name.

To specify the remaining options, return to the find window, clear the Profile field and choose Find.

You should also examine the values set by AutoInstall for the other profile options and determine which ones you want to change. The site–level profile options serve as the defaults for your system until you override them at other levels.

A description for each of the System Administration profile options is available in the Common User Profile Options: page A – 2

Important profile options include:

- Application Web Agent
- Gateway User ID
- TWO_TASK

- Site Name
- Attachment File Directory
- Help System Base URL
- Help System Root
- TCF:Host
- TCF:Port

Attention: This list is not a complete list of System Administration profile options. Use the Find window to find all System Administration profile options.

See Also

Overview of User Profiles: page 10 – 2

Setting User Profile Options: page 10 – 2

System Profile Values: page 10 – 6

Step 7 Define Your Concurrent Managers (Optional)

Concurrent Processing is a feature of Oracle Applications that lets you perform multiple tasks simultaneously. Oracle Applications Concurrent Processing lets you run long, data–dependent functions at the same time as your users perform online operations. Concurrent managers are components of concurrent processing that monitor and run your time–consuming tasks without tying up your computers.

Oracle Applications automatically installs one standard concurrent manager that can run every request. You may want to take advantage of the flexibility of concurrent managers to control throughput on your system.

You can define as many concurrent managers as you need. Keep in mind, however, that each concurrent manager consumes additional memory.

You can specialize each of your concurrent managers so that they run all requests, requests submitted by a particular user, requests submitted by a particular application, or other constraints, or any combination of these constraints.

If you are using Parallel Concurrent Processing in a cluster, massively parallel, or homogeneous networked environment, you should register your Nodes and then assign your concurrent managers to primary and secondary nodes. You can spread your concurrent managers, and

therefore your concurrent processing, across all available nodes to fully utilize hardware resources.

Use the Define Concurrent Manager form to define new concurrent managers.

See Also

Memory Requirements *(Installing Oracle Applications)*

Preparing to Install or Upgrade *(Installing Oracle Applications)*

Defining Managers and their Work Shifts: page 5 – 28

Overview of Concurrent Processing: page 5 – 2

Step 8 Define Request Sets (Optional)

A request set is a group of reports or programs which you submit with one request.. To define and maintain request sets, use the Request Sets form.

Your users can also define their own report sets.

See Also

Define Request Sets *(Oracle Applications User's Guide)*

Step 9 Set Up AuditTrail (Optional)

If you want to keep track of the changes made to your data by application users, you should set up AuditTrail for the relevant tables.

Defining AuditTrail for your site involves defining Audit Groups, which are groups of tables and columns for which you intend to track changes. You then define Audit Installations to instruct AuditTrail which ORACLE IDs you want to audit. Finally, you run the Audit Trail Update Tables Report, which allows your AuditTrail definitions to take effect.

See Also

Define Audit Groups: page 3 – 36

Define Audit Installations: page 3 – 34

Overview of User and Data Auditing: page 3 – 2

Step 10 Modify Language Prompts (Optional)

If you want to modify the field name displayed in the Translations window, you should change the Description value for the language you want to modify in the Languages window.

See Also

Languages window: page 8 – 27

Step 11 Modify Territory LOV Values (Optional)

If you want to modify the territory value displayed in LOVs, you should change the Description value for the territory you want to modify in the Territories window.

See Also

Territories window: page 8 – 29

APPENDIX

G

Setting Up and Maintaining Oracle Applications

This appendix describes how to maintain your Oracle Applications installation. It includes information on Oracle HTTP Server, the TCF Server, concurrent managers, and RunDiscoverer.

Maintaining Your Oracle Applications Configuration

This appendix describes some of the recommended manual setup steps for Application Object Library in Release 11*i*. You can use this appendix as a reference for maintaining your Oracle Applications installation. For complete instructions on setting up a new installation, see *Installing Oracle Applications*.

Proper setup is required before a number of Application Object Library features will operate correctly. Please follow the steps in this guide in their entirety when troubleshooting a Release 11*i* installation.

The following steps are recommended in configuring Oracle Application Object Library in Release 11*i*:

1. Run Rapid Install
2. Test Web Listener Virtual Directories
3. Test the Oracle HTTP Server Configuration
4. Create DBC files
5. Test Java Servlet Setup
6. Set the Web Server Profile Options
7. Start the TCF SocketServer
8. Upgrade Attachments to Release 11*i*

The steps should be performed in the listed order, since later steps use functionality enabled by previous steps.

> **Note:** If you are using Oracle8*i* Parallel Server refer to MetaLink for additional configuration steps.

Run Rapid Install

Rapid Install is the Release 11*i* installation process. Refer to *Installing Oracle Applications* for information on Rapid Install.

The remainder of this section describes specific configuration and testing that should be done to ensure that all Applications Object Library features are operational.

Oracle Applications Rapid Install delivers the standard Apache Single Listener configuration. Follow the instructions that come with the Rapid Install for basic Apache configuration.

Rapid Install configures the HTTP Server automatically. For more information on configuring the HTTP Server, see Administering Oracle HTTP Server Powered by Apache: page G – 28.

For the remaining steps, you should be in the correct environment on the web server machine. To go to the correct environment, do the following:

1. Log into the host machine with your iAS installation.
2. Set the correct environment.

   Example for the Bourne shell:

   ```
   $ cd <your_appl_top_directory>
   $ . APPSORA.env
   ```

Test the Web Listener Virtual Directories

Oracle Applications rely on a number for virtual directories to be configured in the Apache Listener for correct operation. The settings are stored in an Apache configuration file. Check the settings as follows:

1. Locate Apache configuration file directory.

   ```
   cd $ORACLE_HOME/../iAS/Apache/Apache/conf
   ```

2. Edit the apps.conf file.

   This will contain all Oracle Applications specific configurations for the standard Apache Listener.

3. Set or verify virtual directory mappings. The following table lists the virtual directories and examples for the physical directories.

Virtual Directory	Example Physical Directory
/OA_HTML	/dl/common/html
/OA_MEDIA	/dl/common/html
/OA_JAVA	/dl/common/java
/OA_TEMP	/tmp
/OA_CGI	/dl/common/html/bin
/images	/d1/oracle/iAS/Apache/modplsql/images

Test virtual directories by using your browser to fetch the following URLs:

`http://<hostname>:<port>/OA_HTML/env.txt`

should return a small text file with FND_TOP value

`http://<hostname>:<port>/OA_MEDIA/FNDLOGOL.gif`

should return the large Oracle Applications logo

`http://<hostname>:<port>/OA_JAVA/oracle/forms/registry/Registry.dat`

should return a text file with forms registry settings

`http://<hostname>:<port>/OA_CGI/FNDWRR.exe`

should return "Query String Parse Error."

For more information on the Apache configuration file, see Administering Oracle HTTP Server Powered by Apache: page G – 28.

Test the HTTP Server Configuration

▶ **Use your web browser to load the Oracle WebDB PL/SQL Gateway Settings page.**

The default URL for this page is the following:

`http://<hostname>:<port>/pls/admin_/`

Example:

`http://ap557sun.us.oracle.com:2002/pls/admin_/`

Navigate to "Gateway Database Access Descriptor Settings" and create or edit a Database Access Descriptor

The settings for the Database Access Descriptor for your Oracle Applications database are:

Database Access Descriptor Name	<two_task>
Oracle User Name	<apps_schema_name>
Oracle Password	<apps_schema_password>
Oracle Connect String	<two_task>
Maximum Number of Worker Thread	<tune this>
Keep Database Connection Open...	Yes
Default (Home) Page	fnd_web.ping
Document Table	apps.fnd_lobs_document
Document Access Path	docs
Document Access Procedure	<null>

```
Extensions to be Uploaded as BLOB    *
Extensions to be Uploaded as LONG RAW      <null>
Path Alias                           fndgfm
Path Alias Procedure                 fnd_gfm.dispatch
Enable Single Signon Authentication  No
Custom Authentication                CUSTOM
```

Example:

```
Database Access Descriptor Name      R1154
Oracle User Name                     apps
Oracle Password                      apps
Oracle Connect String                R1154
Maximum Number of Worker Thread      10
Keep Database Connection Open...     Yes
Default (Home) Page                  fnd_web.ping
Document Table                       apps.fnd_lobs_document
Document Access Path                 docs
Document Access Procedure
Extensions to be Uploaded as BLOB    *
Extensions to be Uploaded as LONG RAW
Path Alias                           fndgfm
Path Alias Procedure                 fnd_gfm.dispatch
Enable Single Signon Authentication  No
Custom Authentication                CUSTOM
```

▶ **Bounce the web server.**

▶ **Test the Database Access Descriptor.**

You should now be able to use the PL/SQL Gateway to run authorized PL/SQL procedures on your Release 11i database server. To test this, use a web browser to fetch the following URL:

```
http://<hostname>:<port>/pls/<dad_name>/FND_WEB.PING
```

Example:

```
http://ap523sun.us.oracle.com/pls/R1154/FND_WEB.PING
```

The FND_WEB.PING procedure is delivered with Release 11*i* and generates a response table with the following information:

```
FND_WEB.PING
       SYSDATE:          <server system date>
       DATABASE_VERSION: <database version banner>
       DATABASE_ID:      <database identifier>
```

```
SCHEMA_NAME:      <oracle schema name>
AOL_VERSION:      <AOL version number>
APPS_WEB_AGENT:   <profile option site level value>
```

This information should allow you to confirm that your PL/SQL Gateway is indeed pointing at the correct APPS schema.

▶ **Test that CUSTOM authentication is working.**

Warning: Failure to verify CUSTOM authentication will leave serious security holes open in your installation. This step is **MANDATORY**.

The CUSTOM authentication flag directs WebDB to check access privileges using the OWA_CUSTOM.AUTHORIZE function. Oracle Application Object Library supplies an implementation of this function (AFOAUTHB.pls) which verifies requests are enabled for web execution via the FND_ENABLED_PLSQL table. You should verify that this access control is in place by running a function which is not authorized for web execution. For example:

```
http://<hostname>:<port>/pls/<dad_name>/HTP.HR
```

Example:

```
http://ap523sun.us.oracle.com/pls/R1154/HTP.HR
```

You should see an access control error. If you get a page with a horizonal rule across it, then the web request actually executed the HTP.HR procedure even though this package is not listed in FND_ENABLED_PLSQL. To correct this problem, set the "Custom Authentication" field to "CUSTOM" as described in the beginning of this section.

▶ **Test the Generic File Manager service.**

Oracle WebDB is used by the Application Object Library Generic File Manager for file upload and download services. The Generic File Manager service is used to implement online help, attachments, and other file–based features. To test the Generic File Manager, try fetching an online help document with your browser:

```
http://<hostname>:<port>/pls/<dad_name>/
fndgfm/fnd_help.get/US/fnd/@search
```

Example:

```
http://ap523sun.us.oracle.com/pls/R1153/
fndgfm/fnd_help.get/US/fnd/@search
```

This should return an HTML page describe help search features of the online help system.

Create DBC files

A DBC file holds information used by application servers to identify and authenticate with an application database. DBC files must be created on all tiers if you run a multi–tier system. The files are located in $FND_TOP/secure of your Oracle Applications installation and are named as follows:

```
$FND_TOP/secure/<db_host>_<db_sid>.dbc
```

Example:

```
/d1/appltop/fnd/11.5.0/secure/ap100sun_dev115.dbc
```

▶ **Locate the DBC file for your database (Rapid Install should have created one for you). Verify the settings are correct.**

▶ **Test the DBC file by running the AdminAppServer STATUS check:**

Prior to running AdminAppServer you must ensure that the CLASSPATH environment variable contains

- $ORACLE_HOME/jdbc/lib/classes111.zip (jdbc drivers)
- $JAVA_TOP (Oracle Applications java code)

```
jre oracle.apps.fnd.security.AdminAppServer STATUS \
        DBC=<full_patch_to_dbc_file>
```

Example:

```
jre oracle.apps.fnd.security.AdminAppServer STATUS \
  DBC=/d1/appltop/fnd/11.5.0/secure/ap100sun_dev115.dbc>
```

If the utility returns with the APPL_SERVER_ID and other status information, the DBC file is good and you may proceed to the next section. If the utility fails to connect, then you must correct the DBC file or create a new one.

DBC files can be created by copying the template, or by using the AdminAppServer utility. In addition to creating the .dbc file, the utility registers the application server with the database for the Applications Server Security feature. To access additional databases from the same application server installation, you must run the AdminAppServer script once for each additional database. The command is as follows:

```
jre oracle.apps.fnd.security.AdminAppServer ADD \
    SECURE_PATH=<$FND_TOP/secure>
    GWYUID=<gateway_schema_name>/<gateway_schema_pwd> \
    FNDNAM=<apps_schema_name> \
    APPS_JDBC_DRIVER_TYPE=THIN \
    GUEST_USER_PWD=<guest_user>/<guest_pwd> \
    DB_HOST=<database_hostname> \
    DB_PORT=<database_port> \
    DB_NAME=<database_sid> \
    [SERVER_ADDRESS=<tcp.ip address>] \
    [SERVER_DESCRIPTION="Public web access server"] \
    [env_name=env_value]
```

Example:

```
jre oracle.apps.fnd.security.AdminAppServer ADD \
    SECURE_PATH="$FND_TOP/secure" \
    GWYUID=applsyspub/pub \
    FNDNAM=APPS \
    APPS_JDBC_DRIVER_TYPE=THIN \
    GUEST_USER_PWD=guest/guest \
    DB_HOST=ap100sun \
    DB_PORT=1521 \
    DB_NAME=r1152
```

Test Java Servlet Setup

The Apache listener should already be configured to run Java Servlets and Java Server Pages (JSPs).

▶ **Test the JSP setup by executing the "JSP Ping" page. Use your web browser to load the following URL:**

```
http://<hostname>:<port>/OA_HTML/fnd/jsp/fndping.jsp?
    dbc=<dbc_file_name>
```

Example:

```
http://ap523sun.oracle.com:2002/OA_HTML/fnd/jsp/fndping.jsp?
    dbc=ap100sun_test115
```

Set the Web Server Profile Options

A number of profile options must be set to identify the base URL used to process various types of web requests.

APPS_WEB_AGENT

This profile option must be set to the URL which identifies the PL/SQL Gateway Database Access Descriptor base URL for your Applications instance. Oracle Applications use the value of this profile option to construct URLs for 'WWW' type functions, Attachments, Export, and other features.

Syntax:

```
http://<hostname>:<port>/pls/<dad_name>
```

Example:

```
http://ap557sun:us.oracle.com/pls/R1153
```

APPS_SERVLET_AGENT

The APPS_SERVLET_AGENT profile option must be set to the URL which identifies the servlet agent for your Oracle Applications instance. Application Object Library uses the value of this profile option to construct URLs for "SERVLET" and "JSP" type functions.

Syntax:

```
http://<hostname>:<port>/
```

Example:

```
http://ap557sun:us.oracle.com/
```

HELP_WEB_AGENT

Online help is launched by invoking the fndhelp.jsp Java Server Page. By default, online help will launch on the Web server specified by the APPS_SERVLET_AGENT profile option. To use the default option leave the HELP_WEB_AGENT profile option blank.

> **Note:** In the previous release of Oracle Applications Release 11*i*, online help was launched by invoking the fnd_help.launch PL/SQL procedure.

If you wish to launch online help on a different Web server, you must specify the entire online help URL in the HELP_WEB_AGENT profile option. For example,

```
http://ap523sun.us.oracle.com:7777/OA_HTML/jsp/fnd/
fndhelp.jsp?dbc=ap118sun_testdb
```

▶ **After setting these profile options, sign on again, to refresh the profile option cache.**

▶ **Test the APPS_WEB_AGENT and web server configuration.**

Log onto Oracle Applications forms. From the Help menu, choose "Diagnostics > Test Web Agent...". This should launch a browser with the URL

```
<APPS_WEB_AGENT>/FND_WEB.PING
```

This should open a web page with the Ping response. Confirm that the response information is as expected.

To test the Export feature, open a simple form with a multi row block. Query up a set of records, then select "File / Export..." from the menu. A browser window should open and display the form data in tab–separated format.

▶ **Test the HELP_WEB_AGENT configuration.**

- System Help

  From the Help menu, select "Oracle Applications Library." A browser window should open up, displaying the online help system. The documentation portion should contain the top level Oracle Applications Help page.

- Window Help:

  From the Help menu, select "Window Help." A browser window should open up, displaying the online help system. The documentation portion should contain the online help for the current form.

GUEST_USER_PWD

Use the System Profiles form to verify or set the value of the GUEST_USER_PWD profile option. The value should be the username/password of a valid applications user account (not an Oracle user). Any valid account will do, but we recommend that this account not be assigned any actual responsibilities. Example:

```
GUEST_USER_PWD = GUEST/GUEST
```

Verify that the user/password works by signing on to Oracle Applications through forms.

ICX: Forms Launcher, ICX: Reports Launcher, ICX: Discoverer Launcher

The Personal Homepage allows Forms, Reports and Discoverer sessions to be launched from a single web page. You must set these

site–level profile options to identify the base URL to use when launching each of these applications.

Set the Site level value of each option to the base URL to launch the appropriate application.

The base URLs provided in these profiles should be sufficient to launch the application, but should not include additional parameters which may be supplied by the Personal Homepage.

Examples are listed in the following table:

Profile	Value
ICX: Forms Launcher	`http://myFormsServer/dev60cgi/f60cgi`
ICX: Report Launcher	`http://myReportsServer/dev60cgi/rwcgi60`
ICX: Discoverer Launcher	`http://myWebDiscovererServer/discwb33/html/english/welcome.htm?Connect=[APPS_SECURE]apptest`

Start the TCF SocketServer

The Thin Client Framework (TCF) SocketServer is a middle tier process that accepts connections from the UI clients to their server components. The TCF architecture supports Hierarchy Editor applications such as the Object Navigator and the Function Security Menu Viewer. The SocketServer process should always be running in a production installation.

Follow these steps to start the SocketServer.:

▶ **Log onto the forms server host machine.**

Oracle Applications require running the TCF server on the same machine as the forms server host machine, in order to support SSL mode.

▶ **Check your environment.**

Check that your CLASSPATH environment variable is pointing to the Release 11*i* Oracle Applications Java code (that is, the apps.zip file). Your PATH should point to the proper Java environment.

▶ **Start the SocketServer on a free port.**

There are two ways to start the SocketServer – either using the ServerControl class or the SocketServer class directly. The

ServerControl class invokes the SocketServer class, but has a cleaner interface and performs some administrative functions on top of the SocketServer as well (more on this below).

```
jre oracle.apps.fnd.tcf.ServerControl START <port_number> \
    DBC=$FND_TOP/secure/host_sid.dbc

jre oracle.apps.fnd.tcf.SocketServer <port_number> \
    DBC=$FND_TOP/secure/host_sid.dbc
```

Note the similarities. The major difference is that the ServerControl class uses the START keyword before the port number (it also accepts STOP, STATUS, and UPDATE as keywords). ServerControl will also automatically update the profile options with the correct values for TCF:HOST and TCF:PORT. For details on the other commands, see the javadoc for the ServerControl.

The DBC argument is required for Release 11*i*, it must be passed in from the command line or contained in an environment file that can also be passed into the SocketServer using the ENV argument. There are also other optional parameters, like OUTPUTFILE (for logging) – again, see the javadoc for full details.

Examples:

```
jre oracle.apps.fnd.tcf.ServerControl START 10021 \
   DBC=$FND_TOP/secure/host_sid.dbc \
   OUTPUTFILE=tcflog.txt

jre oracle.apps.fnd.tcf.ServerControl START 10021
ENV=env.txt
```

where env.txt defines DBC and can define arguments like OUTPUTFILE as well.

If the socket is already in use, you will receive an error message. Either select another port number or stop the other process.

After starting the SocketServer on the specified port (10021 in the example above), you will then need to update two profiles in the database to ”tell” clients where the SocketServer is running – the profiles are ”TCF:HOST” and ”TCF:PORT”, respectively. Updating these profiles can be done through the System Administrator responsibility in Oracle Applications, or if you use the ServerControl to start up your applications, it will log onto the database and update these profiles for you.

For more information on these profile options, see: Profile Options in Oracle Application Object Library page: A – 2.

The default amount of memory that any jre process starts with (16M) is quite low. If you are expecting multiple users to use the SocketServer

you will likely want to increase this limit. Type `java-help` to see what the command–line arguments are used for increasing the memory limits for a Java process. Exactly how much you want to increase this will vary, based on how many concurrent users you expect and which applications they run, so there is no simple metric for calculating this figure.

Starting the SocketServer in HTTP mode

The SocketServer can also be run in HTTP mode, if the client needs to connect to it through a firewall. To start the socket server in HTTP mode, pass the argument PROTOCOL=HTTP when running ServerControl (or just `-h` when running SocketServer directly). For example:

```
jre oracle.apps.fnd.tcf.ServerControl START 10021 \
      DBC=$FND_TOP/secure/host_sid.dbc \
      OUTPUTFILE=tcflog.txt \
      PROTOCOL=HTTP
```

The client will need to know in advance that the server is running in HTTP mode. The convention for signalling this is that the TCF:HOST profile mentioned above will contain the name of the SocketServer host machine, prepended with the text "http://". Similarly for SSL mode (discussed below), the host name will be prepended with "https://". This tag will be stripped out, of course, before actually attempting to connect to the server machine. When ServerControl is used to start up the SocketServer, it will take care of updating the TCF:HOST profile with the "http://" tag correctly.

```
jre oracle.apps.fnd.tcf.ServerControl STATUS 15000
PROTOCOL=HTTP
```

Starting the SocketServer in SSL mode

The SocketServer also supports SSL mode, for secure connections (which can go through a firewall). This setup is a little more complicated – in addition to requiring the PROTOCOL=SSL argument (or just `-ssl` for SocketServer), it requires the use of an Oracle wallet containing the certificates required for the SSL protocol. The wallet should already have been installed as part of the forms server installation and will likely be under the $ORACLE_HOME/owm area. The SocketServer requires that it be told the location of this wallet via the FORMS60_WALLET environment variable. Environment variables can be passed to it using the Java system properties or using the ENV file. For example, the following could be used to start the server in SSL mode:

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
       ENV=env.txt \
       PROTOCOL=SSL
```

where the env.txt file contained:

```
DBC=$FND_TOP/secure/database.dbc
   FORMS60_HTTPS_NEGOTIATE_DOWN=TRUE
   FORMS60_WALLET=$ORACLE_HOME/owm/wallet
```

with no spaces before or after the name=value pairs, of course.

FORMS60_HTTPS_NEGOTIATE_DOWN is another optional argument used in SSL mode. Its should correspond to the value of the same environment variable that is set when starting up the forms server.

Every wallet also requires a password, both to modify it and to open it at runtime. The SocketServer needs to be told what this password is after the wallet is created and the password set. The password needs to be placed in the .dbc file that is passed into the ServerControl at startup. The password can be added (encrypted) to the .dbc file by running the AdminAppServer class. For example, the following could be used to add a wallet password to a DBC file:

```
jre oracle.apps.fnd.security.AdminAppServer apps/apps@VIS \
UPDATE DBC=$FND_TOP/secure/ap557sun_vis.dbc \
WALLET_PWD=oracle
```

The javadoc contains more information on the operation of the AdminAppServer class.

The TCF:HOST profile should contain a value like ”https:/ /hostname” to indicate that it should connect using SSL.

▶ **Test the SocketServer**

Sign on to Oracle Applications using the System Administrator responsibility and navigate to the Define Menus form. Query up any menu in the form and then press the View Menu button in the upper right hand side. The Menu Viewer utility should start.

Upgrade Attachments to Release 11*i*

This step is required only when upgrading from Releases 10.7 NCA or 11.0, and there are file type document Attachments you wish to preserve in Release 11*i*.

In Releases 10.7 and 11.0, attached files were stored in a directory on the Application Server tier. These files need to be uploaded to the database to be accessed by Attachments in Release 11*i*.

▶ **Find the directory containing attached files.**

In 10.7 NCA and 11.0, attached files are stored in a directory named by the "Attachment File Directory" profile. This directory is located on the Application Server tier.

1. Log in to Oracle Applications choosing the System Administrator responsibility.
2. From the Navigator choose Profile —> System. This will bring up the Find System Profile Values window.
3. From the find window, enter "Attachment File Directory" in the Profile field and click Find.
4. Make note of the physical directory to which the above profile points. The directory will be displayed in the Site field. You may have to invoke the Editor (Edit –> Edit Field...) to view the entire string.

▶ **Upload the directory contents.**

The FNDGFU utility should be used to upload the contents of the directory located in the previous step to the database for 11*i*.

1. Go to the directory identified in the previous step on the Application Server tier.
2. Run the FNDGFU utility for every file in this directory. FNDGFU is a standard Concurrent Program. Arguments required for UNIX are given below. Exact syntax will vary by platform.

   ```
   FNDGFU <db connect string> 0 Y
   PROGRAM_NAME=FND_ATTACH\PLS_CALLBACK=
   FND_ATTACHMENT_UTIL_PKG.UPDATE_FILE_METADATA \ <file>...
   ```

   where:

   `<db connect string>` will equal your Apps schema database login.

   `<file>` will equal the full path of the file to upload.

   Multiple files can be specified to be processed at once; for example, specify `/attach_dir/*` to upload every file in directory `/attach_dir`.

   Note: The FNDGFU utility should be run manually from the Applications Server tier, not the Concurrent Manager tier where programs are usually run.

Administering the TCF Server

The TCF (Thin Client Framework) Server is a middle tier process that enables certain Java components of the Oracle Applications user interface to communicate with the middle tier and database tier. These components include the AK Object Navigator, the Function Security Menu Viewer, BOM Routings and MRP Pegging, WIP Shopfloor Control Board, and others. The TCF Server process should always be running in a production installation.

The central class used by the TCF Server to handle incoming connections is the SocketServer class (in the oracle.apps.fnd.tcf package). The terms TCF Server and SocketServer are often used interchangeably. Administration of the SocketServer is typically handled through the ServerControl class (in the same package), which basically provides a clean interface around all the different SocketServer functions that an administrator might perform (starting, stopping, updating, etc).

ServerControl Usage

```
jre oracle.apps.fnd.tcf.ServerControl
[START|STOP|STATUS|UPDATE] <portnumber|default=10021>
[<param=value>]*
```

"param=value" parameters include:

```
DBC=$FND_TOP/secure/<dbc_file>.dbc
DEBUG=[TRUE|FALSE]
JRE_PARAMS=<jre parameters>
OUTPUTFILE=<output file name>
PROTOCOL=[SOCKETS|HTTP|SSL]
STOP_MODE=[IMMEDIATE|NORMAL]
ENV*=/<env_path>/env.txt
LOGLEVEL*=[ERROR|EXCEPTION|EVENT|PROCEDURE|STATEMENT]
LOGMODULE*=[<product name>|<oracle.apps>]
```

DBC

The DBC parameter is **required** when passing the START command to the SocketServer. It must point to a dbc file located under $FND_TOP/secure. The ServerControl will connect to the database specified by that .dbc file and set the TCF:HOST and TCF:PORT profile

options accordingly. If the port number is omitted, the value will default to 10021. After the server is started up, it will be able to connect to any database which has a .dbc file in the $FND_TOP/secure directory; that is, it is not limited to connecting to only the .dbc file you start the server with.

DEBUG

The DEBUG parameter when set to TRUE will cause a window to pop up listing all the clients that are currently connected to the server.

The default value is FALSE.

JRE_PARAMS

The JRE_PARAMS argument can be used to pass in java runtime parameters to the SocketServer (for a list of available ones, type 'jre –help'). To pass multiple arguments, embed them in quotes. Note that the normal jre arguments you pass directly in when running the ServerControl (eg jre –mx128m oracle.apps.fnd.tcf.ServerControl) do not get passed on to the SocketServer process.

OUTPUT_FILE

Specify OUTPUT_FILE if you want any log output and error messages to be logged to a file. If this is not specified you will not be able to see if an error occurs.

PROTOCOL

The SocketServer can run in HTTP or SSL mode by specifying the argument PROTOCOL argument. See the section on HTTP and SSL mode for more details.

The default value is SOCKETS.

STOP_MODE

STOP_MODE is used only when stopping a TCF Server. See the section on shutting down a SocketServer for more details.

The default value is NORMAL.

ENV

The ENV parameter (new in 11.5.2) can be used to pass in environment variables and values for all of the above arguments, by pointing it to a

text file containing the arguments above in the format of a java Properties file (roughly, name=value pairs on each line, no whitespace). An environment file is required when starting the server in SSL mode, as it needs to pass in some additional arguments. It is also possible to pass in environment variables using java '–D' flag, but using an environment file is cleaner. If an argument is passed in both the environment file and on the command line, the command line argument will be override the environment file. Not all environment variables can be passed in from the command line, however. Environment files should be located under $OA_HTML.

LOGLEVEL and LOGMODULE

LOGLEVEL and LOGMODULE (new in 11.5.2) can be set to vary the number of log messages that will appear (should be used in conjunction with OUTPUTFILE). The default is to print out errors and exceptions, for all modules.

The default value for LOGLEVEL is EXCEPTION. The default value for LOGMODULE is <oracle.apps>.

Starting a TCF Server

In previous versions of 11i, the TCF Server could be started on any machine. Beginning with 11.5.2, we now require that the TCF Server be started on the same machine as the forms server. This requirement is necessary to support SSL mode. After logging onto the forms server, to start the TCF Server you need to change to the appropriate environment (typically if you log in as applmgr this will alread be set) and run the ServerControl with the START command:

```
jre oracle.apps.fnd.tcf.ServerControl START 10021 ..
```

The ServerControl in START mode can take every parameter listed above with the exception of 'STOP_MODE'. The DBC parameter is required, as is the ENV parameter when running in SSL mode. Examples are given below.

The environment should contain, among other things, the java runtime engine, and the apps.zip and jdbc111.zip files included in the CLASSPATH. The .zip files should have been installed under your $JAVA_TOP.

ServerControl vs. SocketServer

You can also start a SocketServer using the SocketServer class directly:

```
jre oracle.apps.fnd.tcf.SocketServer 10021 ..
```

The SocketServer class takes slightly different arguments – instead of a PROTOCOL argument, it uses the flags ”–h” and ”–ssl” for HTTP mode and SSL mode respectively. It uses the flag ”–d” instead of the DEBUG argument. And unlike with ServerControl, any JRE parameters can be passed directly into the SocketServer, so the JRE_PARAMS arg is not required.

The differences in the arguments taken can be confusing and in general ServerControl is used more frequently because it provides a cleaner interface towards starting the SocketServer, plus the SocketServer cannot be used to perform any of the other administrative functions (stopping, updating, etc) that the ServerControl can. Additionally, the ServerControl will take care of updating the TCF:HOST and TCF:PORT profiles in the database for you (whatever database is pointed to by the DBC file that is passed in).

However, SocketServer does print debugging output directly to the window in which it was started, unlike ServerControl which requires the OUTPUTFILE argument, and sometimes Oracle Support may find it more convenient to have users start the SocketServer directly when encountering problems. Plus, if you for some reason did not want the TCF:HOST and TCF:PORT profiles updated, you might use SocketServer.

Essentially, ServerControl and SocketServer are two classes which provide the same functionality when it comes to starting a SocketServer (in fact, ServerControl ends up calling SocketServer). To provide a cleaner, simpler interface, though, we in general recommend that ServerControl always be used unless you have a specific reason to call SocketServer directly.

Examples

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc
```

This starts a TCF Server listening at port 10021 in sockets mode, and updates the site–level profiles TCF:HOST and TCF:PORT in the database specified in the ’host_dbname.dbc’ file to point to this SocketServer.

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc PROTOCOL=HTTP
     OUTPUTFILE=tcflog.txt LOGLEVEL=STATEMENT
```

This starts a TCF Server listening at port 10021 in HTTP mode, and updates the site–level profiles TCF:HOST and TCF:PORT accordingly.

It also produces output of all log messages, even STATEMENT's, to the file 'tcflog.txt'.

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc JRE_PARAMS="-ms128m
     -mx128m"
```

This starts up the TCF Server with 128megs of stack and heap space.

> **Note:** The TCF Server will need to be restarted any time patches are applied which modify Java code. The simplest policy would be to restart TCF Server after completion of any patch. Database downtime will not generally require the TCF Server to be restarted, but restarting TCF as part of a general purpose 'Restart the system' script would be a good administrative practice.

Checking the status of a TCF Server

Login to your TCF Server machine and type:

```
jre oracle.apps.fnd.tcf.ServerControl STATUS 10021
```

This should return a list of all open connections to the TCF Server (including the one you're making now to check the status). When running in HTTP or SSL mode, be sure to specify the appropriate PROTOCOL argument, for example:

```
jre oracle.apps.fnd.tcf.ServerControl STATUS 10021
PROTOCOL=HTTP
```

Another more advanced test you can run is to try running the Function Security Menu Viewer application, which uses TCF. Sign onto Oracle Applicaitions as the System Administrator and navigate to the Define Menus form (Application > Menus). Query up any record and press the View Tree button in the upper right corner – the Menu Viewer screen should appear.

Shutting Down a TCF Server

Login to your TCF Server machine and type:

jre oracle.apps.fnd.tcf.ServerControl STOP 10021

Because the TCF Server may have active client connections in progress, there are two options for shutdown mode:

```
STOP_MODE=[IMMEDIATE|NORMAL]
```

NORMAL mode causes TCF to refuse additional connections and shutdown when the last active connection closes. IMMEDIATE mode will terminate active connections — and should be used only after giving users some notice since there is potential for data loss if they have uncompleted transactions.

Again, when running in HTTP or SSL mode, be sure to specify the appropriate PROTOCOL argument.

```
jre oracle.apps.fnd.tcf.ServerControl STOP 10021
STOP_MODE=IMMEDIATE PROTOCOL=HTTP
```

Updating a TCF Server

Prior to 11.5.2, the UPDATE option for the ServerControl was not supported. In 11.5.2, while running a SocketServer, there are certain options you can set or properties you can get (in addition to the STATUS above) at runtime. Currently, these include the following:

```
LOGLEVEL=[ERROR|EXCEPTION|EVENT|PROCEDURE|STATEMENT]
LOGMODULE=[<product name>|<oracle.apps>]
GET=[MEMORY|JDBC|VERSION]
```

The LOGLEVEL and LOGMODULE properties are the same as those which you set when starting the server, but here you can set them dynamically. The GET call can be used to query up certain pieces of information about the SocketServer's current status:

GET=MEMORY will return the current amount of memory in use and how much the JVM says is available, in bytes. But note that this is a very imprecise metric, as it relies on java's own Runtime class's methods 'freeMemory' and 'totalMemory'. It should never be relied upon for accurate results, only used as a guideline.

GET=JDBC will output the current state of the JDBC connection pool in use to the log file (note that logging must be turned on, and OUTPUTFILE should have been specified).

GET=VERSION will return the java revisions of any class files that have been currently loaded. Oracle Support may request this information if a customer is encountering problems.

Examples

```
jre oracle.apps.fnd.tcf.ServerControl UPDATE 10021
LOGLEVEL=STATEMENT LOGMODULE=oracle.apps.fnd.tcf
```

will set your logging level to log all levels of messages, not just the default of errors and exceptions.

```
jre oracle.apps.fnd.tcf.ServerControl UPDATE 10021
PROTOCOL=HTTP GET=JDBC
```

will connect to a SocketServer running in HTTP mode and output to your log file how many JDBC connections are currently in the pool, how many are in use, and so on.

TCF Concurrency Options

HTTP/SSL Mode

TCF can use a few different protocols to communicate data between a client and the middle tier server. These are set using the PROTOCOL parameter of the ServerControl utility. Available settings are:

```
PROTOCOL=[TCP|SOCKETS|HTTP|HTTPS|SSL]
```

Note that TCP and SOCKETS, the default(s), are two names for the same TCF Server mode, and the same is true of HTTPS and SSL. In each case, both names are commonly used and we allow either as a convenience.

In the base 11i release, HTTP support was only available for certain applications. In 11.5.2, TCF includes full support for HTTP as well as SSL, to allow you to communicate (securely if needed) through a properly configured proxy server.

Just starting the TCF Server in the appropriate mode (sockets, HTTP, or SSL) is not enough, the client needs to know which protocol to use when trying to connect. Unfortunately it is not possible for the client to determine on the fly what mode the server is running in, so it needs to be ”told” this information somehow. The convention we adopted (in 11.5.2) for signalling this is to prepend the TCF:HOST profile with the text ”http://” for HTTP and ”https://” for SSL. The tag will be stripped out of course before actually attempting to connect to the specified server machine. If the hostname is not prepended with anything, the client will connect using the default sockets protocol. When using the ServerControl to start up the SocketServer, it will take care of updating the TCF:HOST profile with the ”http://” or ”https://” tag when using the HTTP/SSL protocols, respectively.

Running through a firewall

HTTP mode is provided specifically so TCF users can connect through a firewall (although it is not required that they do so). When running a

TCF application from within forms, the proxy settings are picked up from the JInitiator settings automatically.

When connecting through a proxy server, the network connection from the client to the server will not necessarily be maintained for the duration of the client session – the proxy server may choose to time out the connection after a certain timeout period. So even if the TCF Server detects that the connection is closed, it needs to keep the TCF session active – on the next client request it will reconnect the client to the server. All this behind the scenes timeout and reconnecting should be transparent to the user.

However, the TCF Server does need to be able to shut down the session eventually after being disconnected for some period of time, as the server may not be able to tell whether the disconnect occurred because of a proxy server timeout or because the client aborted abnormally. In the latter case, we definitely need to be able to shut down that TCF session, otherwise it would stay around forever. The environment variable HTTP_TIMEOUT tells the server how long (in minutes) it should keep disconnected sessions around before shutting them down. The default is 60 minutes. Determining the optimal value for this will require some prior thought. A value too high will mean that abnormally terminated sessions will stay in memory for a long time, hogging resources. A value too low can result in users getting timed out in the middle of an active TCF client session.

Some proxy server configuration may be required to allow traffic through to the machine you are running your socket server on, especially when running in SSL mode. Actual configuration details will depend on the proxy software used and cannot be spelled out here.

Special Notes for SSL Mode

Running in SSL mode requires a few additional steps, beyond just specifying the protocol:

- creation of an Oracle Wallet with a password (part of the Forms installation)
- addition of password into .dbc file, using AdminAppServer
- FORMS60_WALLET environment variable to tell TCF Server the location of the wallet
- the jssl–1_1.jar and javaxssl–1_1.jar files in the CLASSPATH
- on the client, a certificate database (certdb.txt) under $JAVA_HOME/lib/security

The Oracle Wallet Manager is installed along with the database and forms, and can be used to create Oracle Wallets which contain the

certificates required to use the SSL protocol. A wallet should already have been installed as part of the Forms server installation, and will likely be under the $ORACLE_HOME/owm area. The SocketServer needs to know the location of this wallet, that information should be passed in via the FORMS60_WALLET environment variable. Environment variables can be passed in using the java system properties or using the ENV file argument described in the usage section above.

The FORMS60_HTTPS_NEGOTIATE_DOWN environment variable is an optional parameter which tells a server that it can accept connections from a client that uses weaker level encryption (eg 40–bit instead of 128–bit) than the server supports. Both the FORMS60_WALLET and FORMS60_HTTPS_NEGOTIATE_DOWN parameters should already be set as part of your Forms installation The values that go into the env.txt file should mirror whatever is set up in your Forms environment.

Wallets are protected by passwords – so you also need to tell the socket server what that password is when starting it up. The password again is created as part of the Forms installation, you then need to add it into the .dbc file that you pass into the SocketServer. To add it to the .dbc file (encrypted), use the AdminAppServer utility (see the javadoc on oracle.apps.fnd.security.AdminAppServer for more details).

Two .zip files also need to be added to the CLASSPATH on the server side, before starting your SocketServer. The .zip files should already be under the 8.1.6 ORACLE_HOME area:

- $ORACLE_HOME/owm/lib/jlib/jssl–1_1.jar
- $ORACLE_HOME/owm/lib/jlib/javax–ssl–1_1.jar

On the client side, most TCF applications will be connecting through forms, so will re–use the same certificate database (certdb.txt) that forms is using (which gets installed with JInitiator, under $JAVA_HOME/lib/security). However, when running a TCF application whose client does not use forms, in order to run in SSL mode you will need to make sure JAVA_HOME is set and the certdb.txt file exists on the machine from which you are running your TCF client. One example of this is the ServerControl class – it acts as a client when attempting to STOP, UPDATE, or get the STATUS of a SocketServer running in SSL mode. So the command:

```
jre oracle.apps.fnd.tcf.ServerControl STATUS 10021
PROTOCOL=SSL
```

will only work properly if JAVA_HOME is set, and the certdb.txt file exists under the $JAVA_HOME/lib/security directory.

Examples

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc PROTOCOL=HTTP
```

starts the server in HTTP mode. It updates the TCF:HOST profile in the database pointed to by 'host_dbname.dbc' to "http://hostname" and the TCF:PORT profile to 10021.

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc ENV=env.txt PROTOCOL=SSL
```

where the env.txt file reads:

```
FORMS60_HTTPS_NEGOTIATE_DOWN=FALSE
FORMS60_WALLET=$ORACLE_HOME/owm/wallet
HTTP_TIMEOUT=120
```

starts the server in SSL mode and updates the TCF:HOST profile to "https://hostname" and TCF:PORT to 10021. The wallet should be located under $ORACLE_HOME/owm/wallet or else this will not work, and the encrypted wallet password should already be in 'host_dbname.dbc'.

Concurrency

The default amount of memory any jre process starts with (16M) is quite low – if you are expecting multiple users to use the SocketServer you will likely want to increase this limit. Exactly how much you want to increase this to will vary based on how many concurrent users you expect and which applications they run. Recall that concurrency refers to the number of users who have the supported UI components active on their screens at any given moment in time, which is generally much smaller than the total number of users on the system.

Memory usage varies widely by application, so unfortunately there is no good metric for calculating what you should set the memory limits to. A very simple rule you can start out with is, for *n* users, allocate a heap size of (2+*n*)MB. In addition to the 8MB footprint of the JRE executable itself, this implies a RAM footprint of (10+n)MB for the JRE process. But if you are running one of the more memory–intensive applications, you will have to adjust this value upwards accordingly.

To enhance performance, TCF employs a JDBC connection caching technology which also needs to be told how many concurrent connections are to be allowed. For 40 concurrent users, the ServerControl command line would look like:

```
jre oracle.apps.fnd.tcf.ServerControl START 10021
DBC=$FND_TOP/secure/host_dbname.dbc
```

```
JRE_PARAMS="-ms42m -mx42m
-DFND_MAX_JDBC_CONNECTIONS=40"
```

where "–ms42m –mx42m" tell the JRE that the starting and maximum heap sizes should be 42MB (40 users + 2MB spare) and "–DFND_MAX_JDBC_CONNECTIONS=40" tells the JRE to set a Java System property (Java's alternative to O/S environment variables) called "FND_MAX_JDBC_CONNECTIONS" to 40. The FND_MAX_JDBC_CONNECTIONS variable defaults to 14 to accommodate the default JRE heap size of 16MB, so this part of the JRE_PARAMS setting should not be omitted. The FND_MAX_JDBC_CONNECTIONS variable can also be specified in the ENV environment file.

These numbers are intended only as a starting point for effective tuning of your system. You may find it useful to allow more ot less memory per user depending on the load your installation places on the TCF Server.

If your installation places especially heavy demands on the TCF Server, you can START multiple instances (using the SocketServer class directly perhaps, to avoid setting and resetting TCF:HOST and TCF:PORT at the site level) and then setting TCF:HOST and TCF:PORT manually at the Application level to direct users of different applications to different instances of TCF Servers. Each instance can run on a different machine if desired, but care must be taken to ensure that the environment it runs in is the same and that any proxy server configuration required for HTTP tunnelling or SSL support is done correctly.

TCF Server Port

We recommend use of port numbers in the range 10021–10029 as a standard which will simplify locating TCF Servers, but TCF will function properly on any port which the O/S allows you to use. For protocols other than TCP/Sockets, there may be proxy server configuration required to allow clients to make connections to the port you have selected. The UNIX utility 'netstat' is handy for understanding the sockets usage on your server.

Troubleshooting

For all errors, the single most useful thing to do is to set the OUTPUTFILE to log all messages, and see what errors print out when a problem occurs (or just check the console window of the SocketServer

process directly, if using SocketServer instead of ServerControl). Some debug information is output by default, and errors raised there are often very descriptive and give a good indication of what the problem is.

Administering Oracle HTTP Server Powered by Apache

Oracle HTTP Server Powered by Apache provides the communication services offered within the Oracle Internet Application Server. This arrangement allows users to deploy HTTP and HTML based applications within a multi tiered computing environment.

Oracle HTTP Server

All incoming client requests to Oracle Internet Application Server (iAS) are handled by the Communication Services component of iAS. The Oracle HTTP Server, powered by Apache Web Server technology will accept and administer these requests. The Apache technology adopted by Oracle HTTP Server provides for an extremely stable, scalable, and extensible platform on which to deploy web based applications. The modular design of the Apache server allows for extension of the capabilities of the Oracle HTTP Server. In addition to the standard Apache modules (often referred to as mods), a number of Oracle specific mods are provided along with an extension to the functionality of several standard mods. These modules include:

mod_ssl
This module provides secure listener communications using an Oracle provided encryption mechanism using 128 bit Secure Sockets Layer.

mod_plsql
This module routes PL/SQL requests to the Oracle8i PL/SQL service, which in turn delegates to PL/SQL programs.

mod_jserv
This module routes all servlet requests to the Apache Jserv servlet engine embedded within Oracle HTTP server. Servlets can be shared across multiple zones.

mod_perl
This module forwards Perl requests to the Perl Interpreter. The Perl Interpreter is embedded within the Oracle HTTP Server, removing the necessity to spawn an external interpreter as well as providing a caching mechanism such that modules and scripts need only be loaded or compiled once. Oracle Applications do not presently utilize mod_perl.

Note: Please refer to the *Oracle HTTP Server* documentation for a more detailed description of the operation and configuration of the Oracle HTTP Server. The information in this section is supplementary to that provided in the Oracle HTTP Server manual.

The manual *Installing Oracle Applications* should be consulted for additional information on directory structures and file locations referred to in this guide.

> **Note:** The Oracle HTTP Server is powered by a standard version of Apache. A number of books have been published describing the operation of the Apache server. To further add to your knowledge of the Apache server, consult one of these.

Apache Configuration Files

Apache is configured through directives contained in one or more configuration files. The directives necessary for operating Apache within the Oracle environment will be entered into the configuration files during the install process. It should not be necessary to modify these files unless the system is being re–configured.

Warning: An invalid directive entered into a configuration file will prevent Apache from starting. An incorrect definition provided to a directive may cause Apache to behave in a fashion that was not intended.

Location

The Apache configuration files are installed as part of the Oracle Applications Rapid Install process. The files will be placed in a sub–directory of iAS_HOME (specified during the install process), Apache/Apache/conf. For example, if iAS_HOME is equal to

UNIX /d5/part/visora/iAS then the Apache configuration files will be in the directory /d5/part/visora/iAS/Apache/Apache/conf.

Windows C:\d5\part\visora\iAS then the Apache configuration files will be in the directory C:\d5\part\visora\iAS\Apache\Apache\conf.

Configuration Files

The default configuration file for Apache is called *httpds.conf*. This file contains those directives necessary to allow Apache to run. The syntax of the configuration file allows for one directive per line. Lines may be continued on to the next line by placing a backslash, "\" as the last character in the line. Directives specified in any of the configuration files are case–insensitive, however arguments to directives may be case–sensitive. Lines beginning with a hash, "#", are considered comments and are ignored.

Other files may be linked to the httpds.conf file through the addition of *include* directives. Rapid Install will have created two other configuration files in the conf directory, *oracle_apache.conf*, and *apps.conf*. The file oracle_apache.conf should also contain an include statement pointing to the file <iAS_HOME>*/Apache/modplsql/cfg/plsql.conf*.

The configuration file to be used at startup can be specified using the –f option on the command line. To view all of the options that the httpds executable accepts, at the command line enter:

UNIX

```
$<iAS_HOME>/Apache/Apache/bin/httpds –h
```

Windows Open a console window (DOS prompt), change directory to where the Apache executable is stored, and execute the command "Apache.exe –h". For example, at the DOS prompt enter:

```
C:\> cd C:\ORANT\Apache\Apache
C:\> Apache.exe –h
```

> **Note:** Refer to the Apache documentation at http://www.apache.org/docs/windows.html for more information on the operation of Apache in the Windows environment.

httpds.conf

Important directives specified in the file httpd.conf:

ServerName	A fully qualified domain name. For example, myserver.acme.com. This is the name with which Apache responds to HTTP requests.
Port	The port number on which Apache listens for HTTP requests. Set during Rapid Install. The default port number is 80.
ServerRoot	A fully qualified path, under which the Apache Server's configuration, error and log files reside. Directives defined with relative paths will append to this path. Set to <iAS_HOME>/Apache/Apache by Rapid Install.
DocumentRoot	The directory out of which document requests are served. Defaults to <COMMON_TOP>/portal.
ErrorLog	A fully qualified path to the error log file. The default entry is equal to <iAS_HOME>/Apache/Apache/logs/error_log

on UNIX and <iAS_HOME>Apache/Apache/logs/error.log on Windows.

CustomLog The location and format of the access log. The default entry is equal to logs/access_log common. This sets the file to be in the Common Logfile Format.

PidFile The file in which the parent process is recorded on startup. Defaults to logs/httpds.pid

Include Two include files should be specified in httpd.conf. <iAS_HOME>/Apache/Jserv/etc/jserv.conf, and <iAS_HOME>/Apache/Apache/conf/oracle_apache.conf.

Warning: The order in which the include files are specified is important. *jserv.conf* should be placed before *oracle_apache.conf*.

oracle_apache.conf

The file *oracle_apache.conf* is "included" in httpds.conf. This file is created by Rapid Install, and has include entries pointing to *apps.conf*, and *plsql.conf* at a minimum. There may also be entries pointing to other files including *xml.conf*, and *ojsp.conf*. As an example oracle_apache.conf should contain the lines:

```
include /d5/ora/iAS/Apache/modplsql/cfg/plsql.conf
include /d5/ora/iAS/Apache/Apache/conf/apps.conf
```

plsql_conf

The file *plsql.conf* has entries related to the handling of PL/SQL procedures. The directive LoadModule plsql_module has an argument that is a pointer to the shared library *modplsql.so*. An example specifying the default location would be:

UNIX

```
#Directives for mod_plsql
LoadModule plsql_module  \
/d5/ora/iAS/Apache/modplsql/bin/modplsql.so
```

Windows

```
#Directives for mod_plsql
LoadModule plsql_module D:\ORANT\bin\plsql.dll
```

apps.conf

This file contains Oracle Applications specific information for the Apache HTTP listener. A number of Alias directives for physical directories will be present in this file. Entries will exist for OA_HTML, OA_MEDIA, OA_JAVA, OA_TEMP, OA_SECURE, and OA_CGI amongst others. An example of the entries that may be present include:

```
Alias /OA_JAVA/ "/d5/part/common/java/"
<Location /OA_JAVA/>
   Order allow,deny
   Allow from all
</Location>
Alias /OA_HTML/ "/d5/part/common/html/"
<Location /OA_HTML/>
   Order allow, deny
   Allow from all
</Location>
Alias /OA_MEDIA/ \
"/d5/part/common/java/oracle apps/media/"
<Location /OA_MEDIA/>
   Order allow, deny
   Allow from all
</Location>
```

> **Note:** Ensure that trailing slashes, "/", are present in the physical directory definition. Omission of the trailing slash can result in errors such as broken images or files not being found.

Controlling Apache

Rapid Install will create a sub–directory under the common area with the path admin/scripts. Within this directory a number of control scripts are created, one of which can be used to stop and start the Apache Web Listener. This file is called *adapcctl.sh*.

UNIX Apache control file: admin/scripts/adapcctl.sh

Windows Apache control file: admin\scripts\adapcctl

The Apache control file is a shell script that can accept the arguments either "stop" or "start". At the command line enter the following:

UNIX To start Apache:

```
$ adapcctl.sh start
```

To stop Apache:

```
$ adapcctl.sh stop
```

Windows Select Start–>Programs–>Oracle for Windows NT–>Oracle HTTP Server–>Start HTTP Server powered by Apache

The file created by Rapid Install, adapcctl.sh, wraps the control script installed with Apache to set the correct environment. The Apache control script is called *apachectl*, and can be found under the common directory in <iAS_HOME> / Apache / Apache / bin / apachectl. Additional command line arguments are available to apachectl. These include "status", "graceful", "restart", and "startssl".

> **Note:** More information on the operation of apachectl can be found in the manual *Oracle HTTP Server*. Refer to the section titled "Secure Sockets Layer Configuration" in this guide for more information on the operation of the "startssl" argument.

Testing Apache Server Status

In order to test the correct operation of the Oracle HTTP as a part of the overall application, it is necessary to ensure that the Oracle database, the Oracle database listener, and the concurrent manager are running, if required. Refer to earlier sections in this guide to determine applicable steps necessary to ensure these processes are available.
To test the status of Apache, enter the following at the operating system prompt (from the <iAS_HOME> / Apache / Apache / bin directory):

UNIX To test the status of the Apache Server–

```
$apachectl status
```

The return from this command is dependent on what the directive "STATUSURL" is set to in the apachectl file as well as on the availability of the lynx command. For example, if the following line is entered in apachectl:

```
STATUSURL="http://myserver.acme.com:8002/pls/VIS/FND_
WEB.PING"
```

then the status command will return:

```
$ apachectl status
   FND_WEB.PING
   SYSDATE 08-DEC-2001 06:37:24
   DATABASE VERSION Oracle8i Enterprise Edition -
Production
   DATABASE ID:vision
```

```
   SCHEMA NAME APPS
   AOL VERSION 11.5
   APPS WEB AGENT
http://myserver.acme.com:8002/pls/VIS
```

To fully test the configuration of the Oracle HTTP Server, you can bring up the Rapid Installation Index Page , by requesting the following URL:

```
http://<server>.<domain>:<port>
```

for example, http://myserver.acme.com:8002, and then selecting "Apps Logon Links" from this page. This launches the Oracle Application Login page from which you can login as an Oracle Applications User, such as SYSADMIN.

Secure Sockets Layer Configuration

Secure Sockets Layer (SSL) allows the Apache listener to encrypt HTML pages and transmit them on the network using the HTTPS protocol for secure transmissions.

SSL uses an encrypting method called public key cryptography, where the server provides the client with a public key for encrypting information. The server's private key is required to decrypt this information. The client uses the public key to encrypt and send information to the server, including its own key which identifies it to the server.

In order for the Oracle HTTP Server, powered by Apache, to function in secure mode it is also necessary to utilize certificates which validate the server's identity. These certificates are used to ensure that the owner of a public key is who they say they are. Typically you will want to use a private key with an officially signed certificate, validated by a Certificate Authority (CA). The CA validates the company details, sets expiration dates on the certificates and may place policies on what information is contained within the certificate. A number of CAs exist, and include such authorities as Verisign, RSA, and GTE CyberTrust. To obtain a CA approved certificate it is necessary to generate a certificate request, which includes details of the organization applying as well as the public key to be distributed, this is then sent to the CA, validated and returned. Authorities may also require proof of ownership of the company applying for the certificate, as well as proof of ownership of the domain name specified in the certificate request.

> **Note:** The task of obtaining a signed certificate is beyond the scope of this guide. Refer to the *Oracle Advanced Security*

Administrator's Guide for more information on the use of certificates in an Oracle environment. Refer to http://www.modssl.org for more information on the SSL module for Apache.

It is possible to generate a self–signed certificate that can be used to test SSL operation. Most browsers are configured to accept certificates from a number of recognized authorities. Receiving a certificate from an organization other than one of these will generate a warning, and the user will be prompted to accept or reject this certificate. A self–signed certificate will generate this warning.

Creating a self–signed certificate

The SSL module provides a utility called *openssl* which can be used to create a self–signed certificate. In order to generate a self–signed certificate perform the following steps:

Step 1: Create Random number file

Create a file containing a string of random numbers. The default path for this file is:

UNIX $HOME/.rnd

Windows RANDFILE can be set with the Control Panel System Properties utility.

The environment variable, RANDFILE, set in *openssl.cnf* can be used to specify the path to the file containing the random numbers.

Step 2: Edit openssl.cnf

The openssl configuration file is called *openssl.cnf*. This file resides by default in the following directory–

UNIX <iAS_HOME>/Apache/open_ssl/bin

Windows ORANT\Apache\open_ssl\bin

A number of key attributes are set within this file. In particular the following need to be set:

RANDFILE An environment variable that points to the file containing a series of random numbers. For example, in the default case the setting would be: RANDFILE = $ENV::HOME/.rnd

dir The directory beneath which the certificates are created. This needs to be a fully qualified path. For example, this could be:

```
dir = /d5/part/ora/iAS/Apache/open_ssl/demoCA
```

Step 3: Set environment variable to point to openssl.cnf

In order for openssl to find the correct configuration file, an environment variable needs to be set. This variable is called OPENSSL_CONF and it should equal the path to the file openssl.cnf. For example:

UNIX In a csh environment, the command could be

```
% setenv OPENSSL_CONF
/d5/part/ora/iAS/Apache/open_ssl/bin/openssl.cnf
```

Windows OPENSSL_CONF can be set with the Control Panel Properties utility.

If this variable is not set openssl will look for the file /usr/local/Apache/libexec/ssl/ssl/openssl.cnf on UNIX systems, or \usr\local\ssl\openssl.cnf on Windows systems. You will see an error stating that configuration information cannot be found if this file does not exist.

Step 4: Generate a certificate using the openssl executable

The executable, *openssl*, can be found in the subdirectory Apache/Apache/open_ssl/bin beneath the <iAS_HOME> area on UNIX, or beneath the \Orant directory on Windows. This is a command line utility that requires the environment variable OPENSSL_CONF to be set (see Step 3) prior to it being run. Enter the following commands:

UNIX On the command line enter–

```
$ openssl req –x509 rsa:1024 –keyout CAkey.pem –out
CAcert.crt –days 10000
```

Windows Run the openssl utility and at the OPENSSL> prompt enter–

```
OPENSSL>req –x509 rsa:1024 –keyout CAkey.pem –out
CAcert.crt –days 10000
```

This command will generated a Private Key called CAkey.pem and will then prompt you for information required to generate a self–signed certificate, CAcert.crt:

PEM pass phrase A password that you have chosen. It must be more than 4 characters. In this case where we are

self–signing certificates this password will be used later in the signing phase.

Country Name A 2 letter country code.

Locality Name The city in which you or your company is located.

Organization Name The name of your company.

Organization Unit The name of your department.

Common Name In our case this must be the domain name of the computer on which the Oracle HTTP server resides. For example, if you will access your server with the HTTP request http://myserver.acme.com then the Common Name must be set to myserver.acme.com

Email Address The administrator's email address.

Note: If you wish to view the certificate enter the command:
`openssl x509 –in CAcert.crt –noout –text`

Step 5: Generate an X509 certificate request

It is now necessary to generate an x509 certificate request. Enter the following:

UNIX On the command line enter–

```
$ openssl req –newkey rsa:1024 –keyout server.key
–out server.req –days 10000
```

Windows Start the openssl utility and at the OPENSSL> prompt enter:

```
OPENSSL> req –newkey rsa:1024 –keyout server.key –out
server.req –days 10000
```

This will create a request for an x509 certificate that needs to be signed by a CA. In this case we are acting as our own CA and will sign the request ourselves using the certificate created in Step 4. Conversely, this request could be sent to a registered authority for signing.

Warning: Some browsers will not accept self–signed certificates. The browser may be pre–configured to accept certificates only from certain registered CAs. It is possible to load certificates from other CAs into the browser. Once this is done, however, the browser will accept all certificates signed by that CA. This could constitute a serious security risk.

The same requests for information as were made in Step 4 will be made again. It does not matter if all of the information is identical.

Step 6: Sign the x509 request with your CA certificate

The x509 request must now be signed by a CA. In this case the certificate we generated in Step 4 will be used to sign the request. Enter the following commands–

UNIX On the command line enter–

```
openssl x509 -req -in server.req -CA CAcert.crt
-CAkey CAkey.pem -CAcreateserial -days 10000 >
server.crt
```

Windows Start the openssl utility and at the OPENSSL> prompt enter–

```
x509 -req -in server.req -CA CAcert.crt -CAkey
CAkey.pem -CAcreateserial -days 10000 > server.crt
```

Step 7: Install the server key and certificate in the appropriate Apache directory

The server key and signed certificate must now be installed in the appropriate Apache directory. The file server.crt must be copied to the directory <iAS_HOME>/Apache/conf/ssl.crt/ and the file server.key must be copied to the directory <iAS_HOME>/Apache/conf/ssl.key/. Enter the following commands:

UNIX An example of the command line entry could be–

```
$cp server.crt /d5/part/ora/iAS/Apache/conf/ssl.crt/
$cp server.key /d5/part/ora/iAS/Apache/conf/ssl.key/
```

Configure Apache to use SSL

Configuring Apache to operate in SSL mode is similar to that of configuring it to run in normal (non–SSL) mode. Information is entered in to the same configuration file, *httpds.conf*. Sections within this file specific to SSL operation are delimited with the commands:

```
<IfDefineSSL>
# SSL directives will appear here
</IfDefineSSL>
```

httpds.conf

The default Port for SSL will be 443 which means that on UNIX *root* privilege is required to start Apache. If *root* privilege is not available a Port number greater than 1023 must be specified in the *Listen* directive

(see below). Entries within httpds.conf that are important to SSL operation are:

ServerName In the case of the self–signed certificate this entry must match that in the certificate. It should be a fully qualified domain name. For example: myserver.acme.com

Port This is set to the default port set during installation. HTTP (non–SSL) requests will be serviced through this port. For example:

```
Port      80
```

Listen By default Apache will listen on all ports for requests. By setting the Listen directive Apache is restricted to the ports specified. Both the http and https ports must be set. For example, to listen for http requests on Port 80 and SSL requests on Port 443 we would set:

```
Listen    80
Listen    443
```

SSLLog The path to a dedicated SSL log file. Errors will be duplicated in the general log file. For example:

```
SSLLog    /d5/part/ora/iAS/Apache/Apache/logs/ssl_engi
ne_log
```

Virtual Host Rapid Install will define a default SSL Virtual Host. Virtual Hosts are used if you wish to maintain multiple domains/hostnames on the one machine. The ServerName specified in the Virtual Host setting must match ServerName, hence the certificate name in the self–signed certificate scenario. For example:

```
<Virtual Host _default_:443>
ServerName myserver.acme.com
ErrorLog
"/d5/part/ora/iAS/Apache/Apache/logs/error_log"
SSLEngine on
SSLCertificateFile
/d5/part/ora/iAS/Apache/conf/ssl.crt/server.crt
#Server Private Key
SSLCertificateKeyFile
```

```
/d5/part/ora/iAS/Apache/conf/ssl.key/server.key
</Virtual Host>
```

Start Apache with SSL

Once the Apache configuration file, httpds.conf, has been set then SSL mode can be enabled by starting Apache using the apachectl utility. The following commands will start Apache in SSL mode:

UNIX An example of the command line entry could be–

```
$ apachectl startssl
```

Windows Select Start–>Programs–>Oracle for Windows NT–>Oracle HTTP Server–>Start HTTP Server Powered by Apache

> **Note:** The HTTP Server will request the password set in the certificate file.

Test SSL operation

In order to test SSL operation a browser must make an https request to the SSL Port on which Apache is listening. For example you could enter into the browser location field:

```
https://myserver.acme.com:443
```

If Apache is functioning correctly in SSL mode the default page will be loaded. In the case of a fresh installation this will be the Rapid Install Index page. From there requests to login to other Oracle Applications can be made.

In this scenario, where a self–signed certificate has been used, it is unlikely that the browser will recognize you as a pre–defined CA. If that is true, the browser will warn you that a certificate from an unrecognized authority is being presented and asks whether you will accept it or not. Be aware that this may cause a security breach if not controlled.

Another method to test SSL communication without using a browser is to open a terminal session on the server running Apache. If you then enter the following command with the appropriate port number:

```
$ openssl s_client -connect localhost:443 -state
```

If SSL is operating your session should connect and provide some useful information on the certificate being used, the public key, and some details on the communication path. This can be useful in debugging problems or furthering your knowledge of SSL communication. Then entering:

```
GET / HTTP/1.0
```

followed by two linefeeds will result in a page being retrieved from the server with some additional SSL messages attached to the end.

Updating Profile options within Oracle Applications

Once SSL has been enabled the Profile options within Oracle Applications can be configured to use https and the SSL port. Refer to other sections of this documentation on how to set Profile options.

> **Note:** Any HTML files being served from this server can be modified to use the https protocol instead of http once Apache is operating in SSL mode.

Setting Up Concurrent Managers

Oracle Applications concurrent managers run processes in the background on a server machine. You must set up and start the concurrent managers for each product group before you can use your Oracle Applications products. The instructions in this section apply whether you are installing or upgrading.

For UNIX:

Keep the following in mind when you start the concurrent managers:

- Concurrent managers inherit directory privileges from the user who starts them. If you plan to start the managers from a login other than the main applications login, applmgr, ensure that the login has the appropriate directory privileges.

  For more information on directory privileges, see *Oracle Applications Concepts*.

- Always run the product group's environment file before you start the group's concurrent managers. This ensures that the managers inherit the correct values for environment variables such as $APPLLOG and $APPLOUT.

- Ensure that you are pointing to the correct ORACLE instance (that is, $ORACLE_HOME and $TWO_TASK are properly set).

  – Values set in the startmgr script

  – Values entered on the command line

  – Values passed through your environment

  – Default values

This means that parameter values set in startmgr override any other values. Command line values override environment and default values, and so on. Another section in this manual contains more information on editing the startmgr script.

You cannot change directory privileges, environment variables, or startup parameters while the managers are running. To put changes into effect, shut down the managers, make the necessary modifications, and restart the managers.

Starting the Concurrent Managers

For UNIX:

You can start the concurrent managers from the Administer Concurrent Managers form or by running the script startmgr directly from the

operating system command line. To start the concurrent manager from the operating system prompt, use the following syntax:

```
$ startmgr \
sysmgr="<APPS username>/<APPS password>" \
mgrname="<name>" \
PRINTER="<printer>" \
mailto="<userid1 userid2...>" \
restart="N|<minutes>" \
logfile="<filename>" \
sleep="<seconds>" \
pmon="<cycles>" \
quesiz="<cycles>" \
diag="Y|N"
```

All parameters are optional. You can pass parameters to the script in any order.

Parameters

The following entries describe the concurrent manager startup parameters. The default values apply if you do not specify different values in the startmgr script, on the command line when you run startmgr, or in your environment.

sysmgr APPS schema name should be set to the APPS schema user ID and password. You will be prompted for the password if you omit the parameter and use the default value. The default value is $FNDNAM.

mgrname Name of the internal concurrent manager (alphanumeric characters only). The default value is `std`.

PRINTER Name of the printer to which all concurrent managers send request output if a user does not specify a printer.

mailto List of users who receive mail when the internal concurrent manager stops running. The default value is the user who starts managers.

restart Number of minutes (integer) the internal concurrent manager waits before attempting to restart after abnormal termination. The default value is N. The default value prevents the manager from restarting after abnormal termination.

logfile The name of the internal concurrent manager's log file. The default value is <mgrname.mgr>.

sleep Number of seconds (integer) the internal concurrent manager waits between times it looks for new concurrent requests. The default value is 60.

pmon Number of sleep cycles (integer) the internal concurrent manager waits between times it checks for concurrent managers that have failed while running a concurrent request. The default value is 20.

qsize Number of pmon cycles (integer) the internal concurrent manager waits between times it checks for normal changes in concurrent manager operation. Normal changes include the start or end of a work shift and changes to concurrent manager definitions entered in the Concurrent Managers form. The default value is 1.

diag `diag=Y` tells all concurrent managers to produce diagnostic output regularly. The default value `diag=N` prevents large log files.

Example

```
$ startmgr sysmgr="apps/apps" \
mgrname="std" \
PRINTER="hqseq1" \
mailto="jsmith" \
restart="N" \
logfile="mgrlog" \
sleep="90" \
pmon="5" \
quesiz="2"
```

For Windows NT:

You start the concurrent managers by starting the OracleConcMgr<APPL_ CONFIG> service from the Windows NT Control Panel Service applet. Keep the following in mind:

- Concurrent managers inherit directory privileges from the user who installs and starts them. If you plan to install and start the managers from a login other than the main applications login

(applmgr) ensure that the login has the appropriate directory privileges. The Windows NT account that starts the concurrent manager service must be the same one that installed it.

- Ensure that the variables defined under the <APPL_CONFIG> registry subtree are set correctly before you start the group's concurrent managers. This ensures that the managers inherit the correct values for environment variables such as APPLLOG and APPLOUT.
- Ensure that you are pointing to the correct ORACLE instance (#ORACLE_ HOME# and ORACLE_SID or LOCAL are properly set).
- Startup parameter values apply in this order:
  - Values set using the Control Panel System applet
  - Values set in the registry
  - Default values

  This means that values set in the Control Panel System applet override values set in the registry, and those set in the registry override default values.

You cannot change directory privileges, environment variables, or startup parameters while the managers are running. To put changes into effect, shut down the managers, make the necessary modifications, and restart the managers.

See: Setting Up Concurrent Managers: page G – 42

See: Restarting the Concurrent Managers: page G – 46

Parameters

The following entries describe the concurrent manager startup parameters. The default values apply if you do not specify different values in the environment (on the command line or system applet) or in your product group's registry subkey.

sysmgr APPS schema name should be set to the APPS schema user ID and password. You will be prompted for the password if you omit the parameter and use the default value. The default value is #FNDNAM#.

mgrname Name of the internal concurrent manager (alphanumeric characters only). The default value is `std`.

PRINTER Name of the printer to which all concurrent managers send request output if a user does not specify a printer.

restart	Number of minutes (integer) the internal concurrent manager waits before attempting to restart after abnormal termination. The default value prevents the manager from restarting after abnormal termination. The default value is N.
logfile	The name of the internal concurrent manager's log file. The default value is <mgrname.mgr>.
sleep	Number of seconds (integer) the internal concurrent manager waits between times it looks for new concurrent requests. The default value is 60.
pmon	Number of sleep cycles (integer) the internal concurrent manager waits between times it checks for concurrent managers that have failed while running a concurrent request. The default value is 20.
qsize	Number of pmon cycles (integer) the internal concurrent manager waits between times it checks for normal changes in concurrent manager operation. Normal changes include the start or end of a work shift and changes to concurrent manager definitions entered in the Concurrent Managers form. The default value is 1.
diag	`diag=Y` tells all concurrent managers to produce diagnostic output regularly. The default value `diag=N` prevents large log files.

Restarting the Concurrent Managers

You must restart the concurrent managers whenever you start the Oracle8*i* Server database or change the concurrent manager startup parameters. You may have to delete some files before or after you restart the concurrent managers.

Concurrent managers append to their own log file if the log files exist when they restart. Therefore, the user who restarts the concurrent managers must either own the existing files, have write privilege for them, or delete them before restarting.

The concurrent managers delete temporary files when each concurrent process finishes. If the concurrent managers stop abnormally, however, they may not delete these files. In this case, delete temporary files once the managers no longer need them.

Suggestion: Delete temporary files only if they have not been accessed more recently than a few days ago. This helps to prevent the loss of files required by the operating system or the concurrent managers.

See Also

Controlling Concurrent Managers: page 5 – 57

Shutting Down the Concurrent Manager Service (Windows NT)

To shut down your concurrent managers, open the Services applet in the Windows NT Control Panel. Select the concurrent manager service that corresponds to your product group and click the Stop button.

Although you can shut down concurrent managers from Oracle Applications System Administrator's responsibility, this does not stop the concurrent manager service. You must still stop the concurrent manager service from the Windows NT Control Panel Services applet before you can restart the concurrent managers.

Note: The OracleConcMgr<APPL_CONFIG> service may take several minutes to shut down because it needs to finish processing currently running requests.

Warning: Do not use the Task Manager to stop the concurrent manager service or other Applications processes unless you are advised to do so by Oracle Worldwide Support.

Removing the Concurrent Manager Service (Windows NT)

If you need to remove the concurrent manager service, ensure that it is not running. At a Windows NT command prompt type:

```
C:\> cmsrvadm remove <APPL_CONFIG>
```

Once you have done this, you will need to reinstall the concurrent manager service in order to process concurrent requests.

File Conventions

The following tables list the locations and file naming conventions for log, output, and temporary files. The location of product log and output files depends on whether you have set up a common directory.

For UNIX

File Type	Location	Filename
Internal Concurrent Manager Log	$FND_TOP/$APPLLOG $<PROD>_TOP/$APPLOUT with Common Directory: $APPLCSF/$APPLOUT	<mgrname>.mgr
Concurrent Manager Log	$FND_TOP/$APPLLOG $<PROD>_TOP/$APPLOUT with Common Directory: $APPLCSF/$APPLOUT	W<nnn>.mgr
Product Log	Default: $<PROD>_TOP/$APPLLOG with Common Directory: $APPLCSF/$APPLLOG	l<request ID>.req
Product Output	Default: $<PROD>_TOP/$APPLOUT with Common Directory: $APPLCSF/$APPLOUT	<USERNAME>.<request ID>
Temporary	$APPLTMP or $REPORTS60_TMP	OF<abcd12345>.t

For Windows NT

File Type	Location	Filename
Internal Concurrent Manager Log	#FND_TOP#\#APPLLOG# #<PROD>_TOP#\#APPLOUT# with Common Directory: #APPLCSF#\#APPLOUT#2	<mgrname>.mgr
Concurrent Manager Log	#FND_TOP#\#APPLLOG# #<PROD>_TOP#\#APPLOUT# with Common Directory: #APPLCSF#\#APPLOUT#	W<nnn>.mgr

Table 13 – 4

File Type	Location	Filename
Product Log	Default: #<PROD>_TOP#\#APPLLOG# with Common Directory: #APPLCSF#\#APPLLOG#	l<request ID>.req
Product Output	Default: #<PROD>_TOP#\#APPLOUT# with Common Directory: #APPLCSF#\#APPLOUT#	<USERNAME>.<request ID>
Temporary	APPLTMP or REPORTS60_TMP	OF<abcd12345>.t

Table 13 – 4

Parameters

The variable parameters have the following values:

mgrname The name specified with the `mgrname` parameter in the `startmgr` command. If no name is specified, the filename is std.mgr.

nnn A sequence number between 1 and 999 is generated by the concurrent processing facility.

<PROD>_TOP The product's top environment variable, such as GL_TOP.

request ID The number that identifies the concurrent request.

USERNAME Up to eight characters (uppercase) of the application username of the user that requested the concurrent process.

<abcd12345> Naming convention in which <abcd> are random letters and <12345> designate the operating system process ID of the concurrent process that generated the file.

Directory Privileges

Any user who runs an environment file and has access to the startmgr script can start the concurrent managers. This user then owns the log and output files that the concurrent managers create. Oracle recommends that you start the managers from the applmgr login to ensure that they inherit the correct directory privileges.

Warning: Always start the concurrent managers from the applmgr login if you are using parallel concurrent processing on multiple nodes.

For UNIX

Setting the startmgr User ID with setuid in UNIX

To ensure that startmgr inherits the applmgr directory privileges, you can use the UNIX setuid facility to set startmgr to the applmgr login's UNIX user ID. The concurrent managers then inherit the applmgr privileges no matter which login runs startmgr. This allows you to start or restart concurrent managers using the Administer Concurrent Managers form, regardless of the originating UNIX login. Note that you must reset the user ID with setuid if you modify or copy startmgr. Refer to your online UNIX documentation for information on setuid.

> **Note:** The use of the setuid command may cause unexpected behavior on certain platforms that employ dynamic linking of libraries. Please refer to the Oracle Applications Installation Update for your platform for any information regarding this problem.

Directory Privileges for Logins other than applmgr

If you do not set the startmgr script to the applmgr user ID and you start the managers from a login other than applmgr, that login needs to have these privileges:

- Read and execute privileges on all Oracle Applications directories
- Write privilege for all directories defined by the following variables:
  - APPLLOG (typically log directory or directories)
  - APPLOUT (typically out directory or directories)
  - APPLCSF (common directory for log and output files)
  - APPLTMP (temporary directory)
  - APPLPTMP (temporary directory for PL/SQL output files)
  - REPORTS60_TMP (temporary directory for Oracle Reports files)
- Write privilege for these directories: /tmp and /usr/tmp

You can verify that a login has the necessary privileges on a certain directory with this command:

```
$ ls -ld < directory>
```

Here is an example:

```
$ ls -ld /usr/tmp
drwxrwxrwx 3 root 22880 Mar 10 11:05 /usr/tmp
      ^^^
```

The three letters marked in the sample response indicate that all users have read, write, and execute privilege for the directory.

For Windows NT

Oracle recommends that you start the managers from the applmgr login to ensure that they inherit the correct directory privileges.

Directory Privileges for Logins other than applmgr

- all Oracle Applications directories
- n all directories defined by the following variables:
  - APPLLOG (typically log directory or directories)
  - APPLOUT (typically out directory or directories)
  - APPLCSF (common directory for log and output files)
  - APPLTMP (temporary directory)
  - APPLPTMP (temporary directory for PL/SQL output files)
  - REPORTS60_TMP (temporary directory for Oracle Reports files)
  - TEMP
  - TMP

Printing (UNIX)

This section contains printer reference material specific to the UNIX operating system, including information on how to create and register executable printing programs.

To register printers in the Printers form of Oracle Applications, your Oracle Applications System Administrator needs to know each printer's operating system name. Your installation update tells you where to find the printer names for your platform.

For additional information, see: Operating System Names for Printers,, *Oracle Applications Installation Update* for your platform.

Standard Print Subroutine

The standard printing subroutine that you can select in the Printer Drivers form uses Oracle Application Object Library routines to print reports. This requires fewer machine resources than printing through a customized executable program or a shell command such as lp or lpr.

When you use the subroutine, there may be options available through the descriptive flexfield at the bottom of the form. These options vary by platform and may include the following: mail Notify user by electronic mail when report finishes printing.

- Mail: Notify user by electronic mail when report finishes printing.
- Priority: Set the priority for reports in the print queue.

Check your installation update for any additional options available on your platform.

Executable Printing Programs

Oracle Applications supports the use of executable programs for printing. However, we recommend that you use executable programs only to provide features unavailable through Oracle Applications printer drivers, such as:

- Interpreting special characters in the text passed to the printer. For example, you need a program to interpret 8–bit characters sent to a 7–bit compatible printer
- Interpreting arguments passed by Oracle Applications. For example, you need a program to perform different actions based on different output filenames.

If you do not need to support special features such as these, print through the standard printing subroutine and printer drivers defined in the Oracle Applications database. This makes the most efficient use of machine resources.

See Also

Overview of Printers and Printing: page 6 – 2

Upgrading to Existing Executable Programs

Because printing through the standard printer subroutine uses machine resources more effectively than printing through executable programs,

we recommend the following if you used executable printing programs in the previous release of Oracle Applications:

- n If predefined printer drivers can replace the executable program, simply register the drivers along with the printer types in the Printer Types form.

  For example, Oracle Applications provides a print style Landscape and the printer driver LANDSCAPESUB. They perform the same function as the program land, which enables DEC LN03 printers to print 132 characters per line.

- If no predefined drivers will work, you may be able to create a customized driver that can replace the executable. You create drivers with the Printer Drivers form.

- If you cannot replace the executable with a simple printer driver definition, you can continue to use the executable by registering it or the shell script that calls it with Oracle Applications.

See Also

Printer Drivers: page 6 – 12

Writing an Executable Program

Executable printing programs can format report output through escape sequences or a printer programming language. Creating them requires a thorough knowledge of both printer operation and a computer programming language. Follow the guidelines in this section if you need to create an executable printing program.

Printer Styles

An executable program should be able to format report output for various print styles, including these:

- Portrait: 80 columns wide, 66 lines per page
- Landscape 132 characters wide, 66 lines per page (62 lines per page on A4 style paper)
- Landwide 180 characters wide, 66 lines per page (62 lines per page on A4 style paper)

Formatting Arguments

If the program handles formatting for various print styles internally, you can pass arguments from the printer drivers to the program to determine which print style to use.

If the program does not contain print style formatting commands, you can define the commands in a shell script that calls the program. You then define the shell script as the printing program in a printer driver and pass arguments that determine the print style from the driver to the script.

The printer driver that calls the executable program or shell script must be able to pass the following arguments:

- Name of the destination printer
- Number of copies to print
- Banner on title page
- Filename

Initialization and Reset

You do not have to add printer initialization and reset strings to your program if you can define these strings in the Printer Drivers form.

Character Mode Oracle Reports Commands

We recommend that you design your executable programs to work with the standard Oracle Reports print drivers. The following standard drivers are located in the $FND_TOP/$APPLREP directory:

- P.prt – Portrait style
- L.prt – Landscape style
- W.prt – Landwide style
- A.prt – A4 style

The program should not misinterpret the commands for bold on, bold off, and page size that the standard drivers imbed in Oracle Applications reports. If necessary, you can create customized Oracle Reports drivers as described below.

Location of Program

When you have compiled and linked the source code or written a shell script, move the program to the $APPLBIN subdirectory under the top directory of your custom development area. Keep copies of the source file in your custom development area as a backup.

Creating Customized Character Mode Oracle Reports Print Drivers

The Oracle Reports print drivers set the font styles for italics, underlining, and bolding. If your executable printing program cannot use the standard Oracle Reports drivers, create a customized driver for each print style you will use with the program.

To create a customized driver, copy L.prt, P.prt, A.prt, or W.prt from $FND_TOP/$APPLREP to your custom development area. Modify a standard driver as needed for your executable printing program. Give the customized driver a new filename but keep the .prt extension. Then copy the customized driver to $FND_TOP/$APPLREP.

Suggestion: Use the executable program name and print style letter as the driver name. For example, use HPLJ3P.prt for portrait style printing with the executable program HPLJ3. When you print in portrait style with this program, the concurrent managers pass the HPLJ3P.prt driver to Oracle Reports as DESFORMAT=HPLJ3P.

Registering Executable Programs

When you have created your executable programs and, optionally, your shell scripts and Oracle Reports drivers, register them in the Printer Drivers form.

Define a printer driver and corresponding print style for each print style that your executable program supports. Complete the following steps to register an executable program for a printer driver:

1. Navigate to the Printer Drivers window and create a new printer driver name. Also add the user name, description, and platform.
2. In the SRW Driver field, enter the name (without the .prt extension) of a standard or customized Oracle Reports driver. All drivers must be in the directory $FND_TOP/$APPLREP.
3. Enter Program as the driver method.
4. Enter No in the Spool File field.
5. Enter No in the Standard Input field.
6. In the program name field, enter the name of the executable program or the shell script that calls it. Include the full path name if this file is not in the $FND_TOP/bin directory.
7. Add the arguments that Oracle Applications passes to the program or shell script. The driver must pass the following to the executable program:
   - Name of the destination printer
   - Number of copies to print
   - Banner on title page
   - Filename
   - Add the initialization and reset strings to the appropriate fields if the program does not send these strings to the printer.

See Also

Printer Drivers Window: page 6 – 48

Printing (Windows NT)

This section contains printer reference material specific to the Windows NT operating system. It also explains how to create and register executable printing programs.

Operating System Names for Printers

To register printers in the Printers window of Oracle Applications, your Oracle Applications system administrator needs to know each printer's operating system name. For Windows NT, you can obtain the printer's name from the Printers folder in My Computer. If you register an invalid printer, the operating system's default printer will be used instead.

Standard Print Subroutine

The standard printing subroutine that you can select in the Printer Drivers form uses Oracle Application Object Library routines to print reports. This requires fewer machine resources than printing through a customized executable program DOS command such as PRINT.

Executable Printing Programs

Oracle Applications supports the use of executable programs for printing. However, we recommend that you use executable programs only to provide features unavailable through Oracle Applications printer drivers, such as:

- Interpreting special characters in the text passed to the printer. For example, you need a program to interpret 8–bit characters sent to a 7–bit compatible printer.
- Interpreting arguments passed by Oracle Applications. For example, you need a program to perform different actions based on different output filenames.

If you do not need to support special features such as these, print through the standard printing subroutine and printer drivers defined in the Oracle Applications database. This makes the most efficient use of machine resources.

See Also

Overview of Printers and Printing: page 6 – 2

Upgrading Existing Executable Programs

Because printing through the standard printer subroutine uses machine resources more effectively than printing through executable programs, we recommend the following if you used executable printing programs in the previous release of Oracle Applications:

- If predefined printer drivers can replace the executable program, simply register the drivers along with the printer types in the Printer Types form.

  For example, Oracle Applications provides a print style Landscape and the printer driver LANDSCAPESUB. They perform the same function as the program land, which enables DEC LN03 printers to print 132 characters per line.

- If no predefined drivers will work, you may be able to create a customized driver that can replace the executable. You create drivers with the Printer Drivers form.

- If you cannot replace the executable with a simple printer driver definition, you can continue to use the executable by registering it or the shell script that calls it with Oracle Applications.

See Also

Printer Drivers: page 6 – 12

Printer Drivers Window: page 6 – 48

Writing an Executable Program

Executable printing programs can format report output through escape sequences or a printer programming language. Creating them requires a thorough knowledge of both printer operation and a computer programming language. Follow the guidelines in this section if you need to create an executable printing program.

Printer Styles

An executable program should be able to format report output for various print styles, including these:

- Portrait: 80 columns wide, 66 lines per page

- Landscape 132 characters wide, 66 lines per page (62 lines per page on A4 style paper)
- Landwide 180 characters wide, 66 lines per page (62 lines per page on A4 style paper)

Formatting Arguments

If the program handles formatting for various print styles internally, you can pass arguments from the printer drivers to the program to determine which print style to use.

If the program does not contain print style formatting commands, you can define the commands in a command file that calls the program. You then define the .cmd file as the printing program in a printer driver and pass arguments that determine the print style from the driver to the script.

The printer driver that calls the executable program or .cmd file must be able to pass the following arguments:

- Name of the destination printer
- Number of copies to print
- Banner on title page
- Filename

Initialization and Reset

You do not have to add printer initialization and reset strings to your program if you can define these strings in the Printer Drivers form.

Character Mode Oracle Reports Commands

We recommend that you design your executable programs to work with the standard Oracle Reports print drivers. The following standard drivers are located in the #FND_TOP#\#APPLREP# directory:

- P.prt – Portrait style
- L.prt – Landscape style
- W.prt – Landwide style
- A.prt – A4 style

The program should not misinterpret the commands for bold on, bold off, and page size that the standard drivers imbed in Oracle Applications reports. If necessary, you can create customized Oracle Reports drivers as described in the next section.

Location of Program

When you have compiled and linked the source code or written a command file, move the program to the #APPLBIN# subdirectory under the top directory of your custom development area. Keep copies of the source file in your custom development area as a backup.

Creating Customized Character Mode Oracle Reports Print Drivers

The Oracle Reports print drivers set the font styles for italics, underlining, and bolding. If your executable printing program cannot use the standard Oracle Reports drivers, create a customized driver for each print style you will use with the program.

To create a customized driver, copy L.prt, P.prt, A.prt, or W.prt from #FND_ TOP#\#APPLREP# to your custom development area. Modify a standard driver as needed for your executable printing program. Give the customized driver a new filename but keep the .prt extension. Then copy the customized driver to #FND_ TOP#\#APPLREP#.

Suggestion: Use the executable program name and print style letter as the driver name. For example, use HPLJ3P.prt for portrait style printing with the executable program HPLJ3. When you print in portrait style with this program, the concurrent managers pass the HPLJ3P.prt driver to Oracle Reports as DESFORMAT=HPLJ3P.

For more information, see the Oracle Reports Developer documentation.

Registering Executable Programs

When you have created your executable programs and, optionally, your Oracle Reports drivers, register them in the Printer Drivers form.

Define a printer driver and corresponding print style for each print style that your executable program supports. Complete the following steps to register an executable program for a printer driver:

1. Navigate to the Printer Drivers form and create a new printer driver name. Also add the user name, description, and platform.
2. In the SRW Driver field, enter the name (without the .prt extension) of a standard or customized Oracle Reports driver. All drivers must be in the directory #FND_TOP#\#APPLREP#.
3. Enter Program as the driver method.
4. Enter No in the Spool File field.
5. Enter No in the Standard Input field.

6. In the Program Name field, enter the name of the executable program or the command file that calls it. Include the full path name if this file is not in the #FND_TOP#\bin directory.
7. Add the arguments that Oracle Applications passes to the program or command file. The driver must pass the following to the executable program:
   - Name of the destination printer
   - Number of copies to print
   - Banner on title page
   - Filename
8. Add the initialization and reset strings to the appropriate fields if the program does not send these strings to the printer.

Invoking Web Discoverer through ICX

This reference section describes how Web Discoverer is invoked for Oracle Self–Service Web Applications menu items such as BIS Discoverer Workbooks.

The following process is the same for all Self Service menu items irrespective of the form function type, that is, whether the form function points to Web Discoverer, Oracle Reports or HTML forms.

- Each menu item is a hyperlink to a ICX menu function with a specific function ID as a parameter,

  For example, the Customer Satisfaction menu item might be a hyperlink to

```
http://myWebdbServer/pls/myWebdbDAD/OracleApps.RF?F=929997
```

- The ICX Menu function reads the function definition based on the function ID for the selected menu item.
- The information that the ICX Menu function uses is the ”Function Type”, ”Parameters”, and ”HTML Call”.
- If the Function Type = WWW, the form function is considered to be an Oracle Self–Service Web Applications type or a Web type function.
- The ICX Menu function transfers control to the function specified in the ”HTML Call” attribute of the form function definition.
- It passes the information in the ”Parameters” attribute of the form function definition to the specified pl/sql procedure.
- The ICX Menu function transfers control to the RunDiscoverer function as defined by the HTML Call above. The RunDiscoverer function takes control from the ICX Menu function from this point on.

Defining the Form Function

The form function definition includes the properties listed in the following table:

Property	Example or Description
Function Name	BIS_[X]
Function User Name	Function name as shown on the menu

Property	Example or Description
Type	WWW
Description	Function description (as displayed in bubble text)
Parameters	workbook=workbookname &PARAMETERS=param_parameter name One~Parameter One Value*param_parameter name Two~Parameter Two Value*
HTML call	OracleOasis.RunDiscoverer

Table 13 – 5 (Page 1 of 1)

ICX Profile Settings

This table lists the ICX profiles you should set:

Profile	Description	Example
ICX_ DISCOVERER_ LAUNCHER	URL that points to the Web Discoverer Server	http://myWebDiscovererServer/webdis/html/english/welcome.htm?Connect=[APPS_SECURE]
ICX_ DEFAULT_EUL	In combination with the Language code, this profile value makes up the EUL owner at runtime.	EUL

Table 13 – 6 (Page 1 of 1)

RunDiscoverer Function

The RunDiscoverer reads the ”Parameters” attributes from the function definition and the ICX profiles to generate the Web Discoverer Launcher URL.

This URL will trigger the Web Discoverer Server to respond with an applet for the Web Discoverer User Edition.

The format of the URL is:

```
ICX_Discoverer_Launcher || DBC filename ||
'&SessionCookieName= ' || DBC filename ||
'&EUL=' || EUL Owner || '_' || Language Code ||
```

```
'&FrameDisplayStyle=separate'  ||
'&opendb='Workbook Name' ||
'&'||Parameter List
```

For example:

```
http://myWebDiscovererServer/webdis/html/english/
    welcome.htm?Connect=[APPS_SECURE]mydbcfilename&
SessionCookieName=ap115sun_dev115
&EUL=EUL_US
&FrameDisplayStyle=seperate
&opendb=cstdmale
&param_Legal%20Entity=**US**%20Singapore%20Distribution
    %20Center%20US
```

Variables in the URL

The variables in the URL are listed in the following table:

Variable	Example	Description
ICX_ DISCOVERER_ LAUNCHER	http://myWebDiscovererServer/webdis/html/english/welcome.htm?Connect=[APPS_SECURE]	ICX profile
DBC filename	mydbcfilename	DBC filename
EUL_ DEFAULT_ EUL	EUL	ICX Profile – Prefix for the End User Layer Owner. The EUL Schema would be appended with the Language. Example: If this profile is "EUL" , then the EUL schema for the English user would be EUL_US, and the EUL schema for the French user would be EUL_F.
Language code	US	
Workbook Name	FIIXTRCF	Parameters attribute defined for the form function indicated by 'workbook='
Parameter List	&PARAMETERS=param_Legal Entity~US Singapore Distribution Center US*	Replace(Parameters attribute defined for the form function,' ','%20')

Table 13 – 7 (Page 1 of 1)

- parameters in the parameter list are delimited by the characters "param_" at the beginning of each parameter

”~” as delimiter between parameter name and value

”*” at the end of each parameter

For example, if your workbook has a parameter ”Company”, the parameter list should refer to this as

```
param_Company~Company Name*
```

- ICX also replaces all ” ” (spaces) with ”%20” characters
- Use ”&” character to delimit one parameter from another
- ”*” is a special delimiter. ”*” must be passed to ICX as ’~at~’ and ICX replaces it with ”*”

Multiple Languages

Based on the user’s language setting the ”&EUL=EULOWNER_LANGUAGE_CODE” will change the EUL schema. There is one EUL schema per language.

Language preferences are passed to Web Discoverer through the following parameters in the URL:

- NLS_LANG=<language_territory>
- NLS_SORT=<sort type>
- NLS_DATE_FORMAT= <date format>
- NLS_DATE_LANGUAGE= <date language>
- NLS_NUMERIC_CHARACTERS= <numeric characters>

For more information on these parameters, see the *Oracle 8i National Language Support Guide*.

Glossary

This glossary contains definitions of terms you might encounter while reading this *Oracle Applications System Administrator's Guide.*

Glossary

Accounting Flexfield The code you use to identify a general ledger account in an Oracle Financials application. Each Accounting Flexfield value corresponds to a summary or rollup account within your chart of accounts.

Action Set A sequence of alert actions that are enabled for a particular alert. You can assign a sequence number to each action you include in an action set to specify the order in which the actions are performed.

Alert A mechanism that checks your database for a specific exception condition. An alert is characterized by the *SQL SELECT statement* it contains. A SQL SELECT statement tells your application what database exception to identify as well as what output to produce for that exception.

Alert Action An action you want your alert to perform. An alert action can depend on the output from the alert. An action can include sending an electronic mail message to a mail ID, running an Oracle Applications program, running a program or script from your operating system, or running a SQL script to modify information in your database. You can have more than one action for an alert, and an action can incorporate the output of the alert.

AuditTrail AuditTrail tracks which rows in a database table(s) were updated at what time and which user was logged in using the form(s). Several updates can be tracked, establishing a trail of audit data that documents the database table changes.

Concurrent Manager A mechanism that runs concurrent programs. A manager operates during the time and days defined by a work shift. A manager can run any concurrent program, or be specialized to run only certain kinds of programs.

Concurrent Program A program that runs concurrently (at the same time) as other programs. Concurrent programs run as background processes, while you continue to work at your terminal.

Concurrent Request A command to start a concurrent program. An example of a concurrent request is a command to generate and print a report.

Data Group A data group is a group list of Oracle Applications and the Oracle ID each application is assigned to. An Oracle ID grants access privileges to tables in an ORACLE database.

Detail Action An alert action that represents one exception found in the database.

Document Sequence A definition of how to assign a unique number to each document generated when a selected database table is updated.

Event Alert An alert that monitors the occurrence of a specific exception or change in your database. An exception in your database results if you add or update information using Oracle Applications forms. The event alert monitors the database for exceptions based on its SQL SELECT statement.

No Exception Action An alert action that represents no exceptions found in the database.

Periodic Alert An alert that periodically reports key information according to a schedule you define. Rather than notify you of immediate exceptions in the database like an event alert, a periodic alert scans for specific database information specified by its SQL SELECT statement at scheduled intervals.

Summary Action An alert action that represents multiple exceptions found in the database.

Summary Threshold The number of exceptions Oracle Alert can find before it changes an alert action from a detail action to a summary action.

Index

A

Administer Folders, 8 – 23
Apache Server, G – 28
Application, registering, 8 – 18
Application basepath, 8 – 19, 8 – 20
Application environment variable, 8 – 20
Application users
  assigning one or more responsibilities, 2 – 2
  changing passwords, 2 – 18
  defining, 2 – 2, 2 – 16
  disabling application password, 2 – 18
  password characteristics, 2 – 17
  password profile options, 2 – 18
  reporting on active users, 2 – 46
  start dates, 2 – 19
  username characteristics, 2 – 17
  username/password, 2 – 2
Applications security, defining a responsibility, 2 – 9
applsys. *See* ORACLE ID
Applsys password, matching APPS accounts, 8 – 13
APPS accounts, password, 8 – 13
Assign default folders, 8 – 23
Audit data, retrieving, 3 – 32
Audit reports
  brief explanation, 3 – 7
  listing, 3 – 2
Auditing database row changes. *See* AuditTrail
Auditing user activity. *See* Sign–On Audit
AuditTrail
  archiving data, 3 – 32
  audit groups, 3 – 22
  audit set, 3 – 22
  description, 3 – 22
  disabling, 3 – 31
  introduction, 3 – 2
  reporting, 3 – 32
  setting up, 3 – 22
  tables, 3 – 24 to 3 – 27
  views, 3 – 25

C

character mode mapping to GUI windows, E – 2
CONCSUB, 4 – 41
Concurrent managers, G – 42
  See also Internal concurrent manager; Specializing managers
  activating a manager, 5 – 57
  activating and other control states, 5 – 84
  assigning work shifts, 5 – 96
  controlling, 5 – 57 to 5 – 67, 5 – 83, G – 46
  defining, 5 – 28 to 5 – 37, 5 – 92 to 5 – 101
  defining combined specialization rules, 5 – 102
  defining work shifts, 5 – 100
  disabling a work shift, 5 – 32
  Immediate program libraries, 5 – 95

migrating, 5 – 71
operating system process ID number, 5 – 89
Oracle process ID number, 5 – 89
PMON cycle, 5 – 58
program libraries, 5 – 29
reporting on work shifts, 5 – 37, 5 – 38
restarting a manager, 5 – 57
role of application name in combined rules, 5 – 103
role of application name when defining, 5 – 92
sleep time, 5 – 96
specializing – Define Managers form, 5 – 97
specializing managers, 5 – 39 to 5 – 64
Standard manager, 5 – 30
target processes, 5 – 2
time–based queues, 5 – 34
viewing actual number of processes, 5 – 84
viewing manager control processes, 5 – 87
viewing manager request queue, 5 – 90
viewing number of running requests, 5 – 84
viewing status of, 5 – 83
viewing target number of processes, 5 – 84
work shifts, 5 – 31 to 5 – 36
work shifts and target processes, 5 – 34, 5 – 96
work shifts hours, 5 – 32
work shifts overlap, 5 – 33
work shifts overlap – same priority, 5 – 33
work shifts past midnight, 5 – 32
Concurrent processing
file purging guidelines, 5 – 21
lifecycle of a request, 5 – 3 to 5 – 6
managing files and tables, 5 – 20 to 5 – 28
overview, 5 – 2 to 5 – 7
profile options, 5 – 26 to 5 – 29
programs, 4 – 66
purge files program, 5 – 22
purging and audit data, 5 – 21
purging request data, 5 – 20 to 5 – 28
System Administrator privileges, 5 – 10
viewing incompatible tasks, 4 – 66
when programs start, 5 – 2
Concurrent programs
and requests, 5 – 2
behavior of program parameters, 4 – 52
behavior of report set parameters, 4 – 52
changing responsibility to see changed effects, 4 – 52
CONCSUB, 4 – 41
copying and modifying, 4 – 47 to 4 – 57
custom, 4 – 35
database session control, 4 – 73
defining incompatibility rules, 4 – 25 to 4 – 31
disabling, 4 – 66
displaying parameters – programs vs. report sets, 4 – 51
enforcement of incompatibility rules, 4 – 27 to 4 – 29
example – modifying program parameters, 4 – 54 to 4 – 56
execution method, 4 – 63, 4 – 66
grouping as a request type, 5 – 105
grouping as request types, 5 – 55 to 5 – 57
Immediate program libraries, 5 – 95
incompatible, 4 – 66, 4 – 75
modifying incompatible programs list, 4 – 48 to 4 – 50
modifying parameters, 4 – 49 to 4 – 57
multiple language support, 4 – 63, 4 – 69
not displaying parameters, 4 – 50
parameter sequence, 4 – 77
program libraries, 5 – 29
report set incompatibilities, 4 – 14
reporting on enabled programs, 4 – 58
reporting on incompatible programs, 4 – 57
reporting on program definitions, 4 – 57
role of application name in request types, 5 – 106
run alone programs, 4 – 25 to 4 – 27
running alone, 4 – 66, 4 – 70
spawned vs. immediate, 5 – 29
subroutines, 4 – 63
viewing, 4 – 66
warnings about modifying, 4 – 47, 4 – 53
Concurrent request type, 5 – 55 to 5 – 57
Concurrent requests
changing phase and status, 5 – 18
changing priority of, 5 – 18
child requests, 5 – 3
explained, 5 – 2
file access privileges, 5 – 11
lifecycle of, 5 – 3 to 5 – 6

log file privileges, 5 – 15
multilingual support, 4 – 4
output file – path to, 5 – 16
output file access privileges, 5 – 11
parent requests, 5 – 3
phase and status, 5 – 3 to 5 – 6
phase / status listing, 5 – 3
priority of, 5 – 3
Report Review Agent, 5 – 11
request types, 5 – 105
role of application name in request types, 5 – 106
submitting using CONCSUB, 4 – 41
System Administrator privileges, 5 – 10
time taken to run, 5 – 36
viewing output, 5 – 107
viewing request parameters, 4 – 51
viewing status of, 5 – 10 to 5 – 13
Conflict Domain, defining, 8 – 17
Conflict domains
defining, 8 – 16
explained, 4 – 26
Consumer groups. *See* Resource consumer groups
Context–sensitive help, link syntax, 7 – 10
Controlling access to reports or programs. *See* Report Groups
Cost–based optimization, 9 – 2
initialization parameters, 9 – 3
Custom concurrent programs, 4 – 35
Custom help, context–sensitive links, 7 – 10
CUSTOM library, 13 – 2
Custom reports, context–sensitive help, 7 – 10
Custom responsibilities, preserving across upgrades, C – 29

D

Data Groups
Application Object Library requirement, 4 – 83
copying, 4 – 33
defining, 4 – 81
explained, 4 – 30
purposes of, 4 – 30
using, 4 – 30 to 4 – 36
using with custom applications, 4 – 31
using with multiple Set of Books, 4 – 31
Database Resource Manager, 8 – 7
Default folders, 8 – 23
Defining a Conflict Domain, 8 – 17
Document sequences
active sequence definitions, 12 – 8
application, 12 – 7, 12 – 15
assigning sequences to document definitions, 12 – 6, 12 – 8
auditability, 12 – 2
automatic document numbering – initial value, 12 – 4
automatic numbering, 12 – 10
automatic vs manual, 12 – 8
category, 12 – 7, 12 – 15
category application, 12 – 13
category code, 12 – 13
category identifies database table, 12 – 12, 12 – 13
defining a sequence, 12 – 3
defining document categories, 12 – 12
defining documents to be numbered, 12 – 7
differences – document numbering vs. entry, 12 – 8
disabling a sequence assignment, 12 – 16
document categories explained, 12 – 6
document definition, 12 – 15
Document Flexfield, 12 – 7
enabling segments in the document flexfield, 12 – 16
end date – document definition, 12 – 16
end date – document flexfield, 12 – 16
entering documents, 12 – 1
entering transactions, 12 – 1
examples – document categories, 12 – 6
examples – sequence definitions, 12 – 4
initial value of sequence, 12 – 11
manual numbering, 12 – 10
message displayed by document, 12 – 10
method in document flexfield, 12 – 7, 12 – 16
segments and the document flexfield, 12 – 16
sequence names, 12 – 9
sequence start date, 12 – 10
sequence type, 12 – 10
sequences and audit records, 12 – 10

sequences explained, 12 – 2
set of books in document flexfield, 12 – 7, 12 – 16
start date – document definition, 12 – 15
start date – document flexfield, 12 – 15
type of document numbering, 12 – 10
type of sequence numbering, 12 – 4

E

Employee, application user, 2 – 18
Enterprise Manager, 5 – 5
Environment variable, 8 – 19
External documents, D – 2

F

Flexfields
Shared Table Lock profile, A – 21
Shorthand Entry profile option, A – 21
FND_CTL, 9 – 32
FND_SESS_CTL, 9 – 32
FND_STATS, 9 – 9
FNDLOAD, C – 2
Folder Administration, 8 – 23
Folder Set, 8 – 23
Folders
Changing ownership, 8 – 25
Private vs. Public, 8 – 25
Form, passing arguments to, 4 – 20 to 4 – 24
Forms
Administer Concurrent Managers, 5 – 83
Applications, 8 – 18
Concurrent Conflicts Domains, 8 – 16
Concurrent Request Types, 5 – 105
Define Application User, 2 – 16
Define Combined Specialization Rules, 5 – 102
Define Concurrent Manager, 5 – 92
Define Data Group, 4 – 81
Define Menu, 2 – 32, 2 – 36
Define Print Style, 6 – 45
Define Printer Driver, 6 – 48
Define Printer Types, 6 – 41
Define Report Group, 4 – 59
Define Work Shifts, 5 – 100
Languages, 8 – 27
Monitor Application Users, 3 – 8
Register Nodes, 5 – 109
Register ORACLE IDs, 8 – 12
Register Printers, 6 – 43
Responsibility, 2 – 9
Security Group, 2 – 15
Territories, 8 – 29
Update System Profile Options, 10 – 6
Function Security
Oracle HRMS, Special Function, 2 – 30
Oracle Sales and Marketing, Special Function, 2 – 30
Function Security Function Report, 2 – 41
Function Security Loader, C – 29
Function Security Menu Report, 2 – 41
Function Security Menu Viewer. *See* Menu Viewer
Function Security Navigator Report, 2 – 41

G

Generic Loader, C – 2

H

Help system
customizing Oracle Applications help, 7 – 2
Help System Utility, 7 – 2
downloading help files for editing, 7 – 4
File Name to Help Target Report, 7 – 6
Help Target to File Name Report, 7 – 6
profile options, 7 – 2, A – 26, A – 27
Uploading help files, 7 – 5
HTTP Server, G – 28

I

Incompatible programs. *See* Concurrent programs

Internal concurrent manager
CONCSUB – hiding password, 5 – 64
CONCSUB – using to shut down, 5 – 63 to 5 – 65
CONCSUB command, 5 – 60, 5 – 62 to 5 – 66
control states, 5 – 58 to 5 – 60
enforces incompatibility rules, 4 – 27 to 4 – 29
explained, 5 – 30
internal monitors, 5 – 68
log file – name and path, 5 – 16
operating system control, 5 – 60 to 5 – 66
parallel concurrent processing, 5 – 68
PMON cycle, 5 – 15, 5 – 58
shut down from operating system, 5 – 63 to 5 – 65
starting from operating system, 5 – 61 to 5 – 63
STARTMGR command, 5 – 60 to 5 – 62
when inactive, 5 – 10

L

Loaders, C – 2
Log files
access level profile option, 5 – 11
Internal manager log file, 5 – 16
manager log files, 5 – 15
manager log files – path and name, 5 – 16
parallel processing on multiple nodes, 5 – 68
purge program, 5 – 22
request log – path to, 5 – 15
System Administrator privileges, 5 – 15
types of, 5 – 14
Logical databases
define for custom applications, 8 – 5
example of program incompatibilities, 8 – 4
explained, 8 – 4
program incompatibility rules, 8 – 4
Standard logical database method, 8 – 5

M

Main menu, reporting on Main Menus Only, 2 – 42
Management Pack for Oracle Applications. *See* Oracle Management Pack for Oracle Applications
Menu Paths, mapping Char mode to GUI, E – 2
Menu Viewer, 2 – 39
Menus
defining, 2 – 32 to 2 – 37, 2 – 36 to 2 – 41
defining a menu entry, 2 – 37
entering arguments, 2 – 34
menu prompts, 2 – 38
Menu Viewer, 2 – 39
reporting on Main Menus Only, 2 – 42
reporting on structure, 2 – 42
sequence numbers, 2 – 37
Menus, using, security, 2 – 2
MIME types, for viewing reports, 5 – 107
MLS. *See* Multilingual support
MLS function, 4 – 63, 4 – 69
Monitoring users. *See* Sign–On Audit
Multi–language function (MLS function), 4 – 63, 4 – 69
Multilingual external documents, D – 2
Multilingual support, concurrent requests, 4 – 4

N

Navigation Paths, mapping Char mode to GUI, E – 2
Network bandwidth, testing, 8 – 22
Network latency, testing, 8 – 22
Network Test window, 8 – 21
Node, explained, 5 – 109
Nodes
explained, 5 – 66
manager's target node, 5 – 70
primary and secondary, 5 – 68

O

Options. *See* User profiles
Oracle Applications Manager, 5 – 5, 5 – 7

Oracle Enterprise Manager, 5 – 5, 5 – 8
Oracle HTTP Server, G – 28
ORACLE ID
  applsys – password warning, 8 – 13
  applsys privileges, 8 – 15
  assigning privileges, 8 – 14
  assigning to responsibility, 2 – 11
  create session privilege, 8 – 13
  disabled privileges, 8 – 12, 8 – 14
  enabled privileges, 8 – 12, 8 – 14
  explained, 8 – 2
  Oracle password, 8 – 14
  Oracle username, 8 – 12
  public privileges, 8 – 15
  registering, 8 – 2, 8 – 12
  requirement for database access, 8 – 3
  reregistering, 8 – 3
  restricted privileges, 8 – 3, 8 – 12, 8 – 14
Oracle Management Pack for Oracle Applications, 5 – 6, 5 – 8
Oracle Parallel Server, 5 – 79
Oracle Reports, bitmapped, 4 – 67
Oracle*Mail, integration with Oracle Alert, B – 6

P

Parallel concurrent processing
  examples implementing, 5 – 72 to 5 – 79
  explained, 5 – 66 to 5 – 78
  implementation checklist, 5 – 77
  Internal manager, 5 – 68
  introduced, 5 – 66
  log files and multiple nodes, 5 – 68
  managing, 5 – 70 to 5 – 78
  migrating managers, 5 – 71
  operating environments, 5 – 66
  proprietary queuing systems, 5 – 69
Password. *See* Application user; Tool ORACLE ID
PASTA print utility, 6 – 32
PMON cycle, concurrent managers, 5 – 58
Predefined alerts
  action sets – definition of, B – 4
  alert – definition of, B – 3
  alert action – definition of, B – 3
  customizing, B – 6
  DBA alerts, B – 10
  event alert – definition of, B – 3
  explained, B – 2, B – 5
  overview of Oracle Alert, B – 2
  periodic alert – definition of, B – 3
  precoded custom alerts, B – 10
  purge mail alert, B – 15
  purging alerts, B – 14
  using, B – 5
  vs. Oracle Alert, B – 1
Printer support
  arguments, 6 – 51
  arguments for print command, 6 – 19
  caching of definitions, 6 – 16
  Command driver method, 6 – 18
  concurrent managers – restarting, 6 – 16
  concurrent program print definitions, 6 – 26
  custom print programs – location, 6 – 19
  defining printer types, 6 – 11
  drivers, styles, printer types and platforms, 6 – 12
  end user settings, 6 – 31
  header pages, 6 – 46
  initialization, 6 – 51
  initialization string, 6 – 21
  initialization string – editing, 6 – 18
  introduction to applications printing, 6 – 5
  introduction to printing, 6 – 2
  Oracle Reports formatting instructions, 6 – 5
  page break problems, 6 – 17
  platform, 6 – 49
  postscript printing, 6 – 24
  predefined types, styles, drivers, 6 – 17
  print command & arguments – example, 6 – 20
  print style assignments, 6 – 28
  print styles – columns, 6 – 46
  print styles – defining, 6 – 45
  print styles – explained, 6 – 11
  print styles – introduction, 6 – 5
  print styles – predefined, 6 – 45
  print styles – rows, 6 – 46
  printer / style assignments, 6 – 26 to 6 – 29
  printer assignments, 6 – 27
  printer driver method, 6 – 12, 6 – 18, 6 – 50
  printer drivers – assigning, 6 – 41
  printer drivers – defining, 6 – 48

printer drivers – explained, 6 – 12
printer drivers – introduction, 6 – 5
printer drivers – predefined for printers, 6 – 48
printer drivers – predefined for styles, 6 – 48
printer drivers – when to define new drivers, 6 – 48
printer types – defining, 6 – 41
printer types – introduction, 6 – 5
printers – operating system name, 6 – 44
printers – registering, 6 – 43
Program driver method, 6 – 18
Program driver method – example, 6 – 19
program name, 6 – 50
registering printers, 6 – 11
reset, 6 – 51
reset printer, 6 – 13
reset string, 6 – 21
reset string – editing, 6 – 18
sequence of printing events, 6 – 7
setting up – forms used, 6 – 14
setting up – relationship of forms, 6 – 14
setting up printers, 6 – 14
shell scripts, 6 – 19
spool file, 6 – 21, 6 – 50
SRW driver, 6 – 49
SRW driver – customizing, 6 – 22 to 6 – 25
SRW drivers – how used, 6 – 23
SRW drivers – location, 6 – 22
standard input, 6 – 20, 6 – 50
Subroutine driver method, 6 – 18
System Administrator privileges, 6 – 29
verifying printer drivers, 6 – 17
Printers. *See* Printer support
Printing, G – 51, G – 56
with UTF8, 6 – 32
Process Navigator, overview, 11 –2
Profiles. *See* User profiles

R

Register
application, 8 – 18
concurrent program, 4 – 66
Report Groups
defining, 4 – 59
example – using a code, 4 – 20
may consist of, 4 – 19
Report Security Groups, 4 – 19
report security groups, report sets, reports, 4 – 13
responsibility–level vs. form–level, 4 – 19
using, 4 – 19 to 4 – 25
using a code to customize, 4 – 60
using a code with, 4 – 20 to 4 – 24
vs. report sets, 4 – 2 to 4 – 4
Report parameters, sharing in a report set, 4 – 15 to 4 – 18
Report Review Agent, 5 – 11
Report Security Groups
See also Report Groups
individual reports and report sets, 2 – 6
relationship with application user and responsibility, 2 – 7
using, 2 – 6
Report Sets
as concurrent programs, 4 – 10
behavior of program parameters, 4 – 52
defining, 4 – 6
displaying parameters – programs vs. report sets, 4 – 51
example – shared parameters, 4 – 16
incompatibility rules, 4 – 14, 4 – 25
owners of, 4 – 11 to 4 – 17
preventing parameters from being changed, 4 – 52
printing, 4 – 10
querying in Define Concurrent programs form, 4 – 14
report security groups, report sets, reports, 4 – 13
reporting on, 4 – 24
reporting on definitions, 4 – 18
request phase and status, 4 – 11
sharing parameters in a set, 4 – 15 to 4 – 18
System Administrator privileges, 4 – 12
vs. report groups, 4 – 2 to 4 – 4
Reports
Active Responsibilities, 2 – 45
Active Users, 2 – 46
Completed Concurrent Requests, 5 – 36
Concurrent Program Details, 4 – 57
Concurrent Programs, 4 – 58
Menu Report, 2 – 42

Purge Concurrent Request and / or Manager Data, 5 – 22
Report Group Responsibilities, 4 – 24
Report Sets, 4 – 18
Reports and Sets by Responsibility, 2 – 47
Signon Audit Concurrent Requests, 3 – 10
Signon Audit Forms, 3 – 12
Signon Audit Responsibilities, 3 – 15
Signon Audit Unsuccessful Logins, 3 – 17
Signon Audit Users, 3 – 19
User Profile Option Values, 10 – 5
Users of a Responsibility, 2 – 44
Work Shift by Manager, 5 – 37
Work Shifts, 5 – 38
Request type, 5 – 55 to 5 – 57
Resource consumer groups, 8 – 7
Responsibilities
Application name, 2 – 10
changing, 2 – 2
deactivating, 2 – 11
defines application privileges, 2 – 2
defining, 2 – 9
description, 2 – 2
major components, 2 – 4
predefined, 2 – 4
Report Security Groups, 2 – 4
reporting on active responsibilities, 2 – 45
reporting on reports and report sets, 2 – 47, 4 – 24
reporting on users of, 2 – 44
standard, 2 – 2
Start date, 2 – 10
Responsibility, default folders, 8 – 24
Run Reports form, customizing using codes, 4 – 20
Run Requests form, example – customizing, 4 – 20

S

Security Groups, defining (for HRMS only), 2 – 15
Security groups, A – 33
Session parameters, for optimization, 9 – 32
Shared parameters, behavior of. *See* Report Sets
Sign–On Audit
audit levels, 3 – 4
examples using, 3 – 5
introduction, 3 – 2
monitoring users, 3 – 5, 3 – 8
purging obsolete data, 3 – 21
reporting on users, 3 – 19
reporting on users and forms, 3 – 12
reporting on users and requests, 3 – 10
reporting on users and responsibilities, 3 – 15
reporting on users and unsuccessful logins, 3 – 17
reports, 3 – 7
setting up, 3 – 4
using, 3 – 3 to 3 – 8
Specializing managers
action types, 5 – 39 to 5 – 41
actions, 5 – 39 to 5 – 41
defining combined rules, 5 – 48 to 5 – 51
defining specialization rules, 5 – 39 to 5 – 42
examples of action types, 5 – 42 to 5 – 44
examples of combined rules, 5 – 50 to 5 – 55
examples of rules, 5 – 43 to 5 – 50
explained, 5 – 39 to 5 – 64
introduction, 5 – 39
specialization vs. combined rules, 5 – 53
using more than one rule, 5 – 40 to 5 – 43
Standard Report Submission, explained, 4 – 2
Standard Submission form
customizing, 4 – 2, 4 – 20 to 4 – 24
example – customizing, 4 – 20
explained, 4 – 2
list, 4 – 20
System Administrator
report set privileges, 4 – 12
versus Database Administrator, 1 – 2

T

Target processes. *See* Concurrent managers
Transaction Managers, 5 – 30

U

Upgrading, preserving custom menus, 2 – 30
User, default folders, 8 – 24
User profiles
  assigning Set of Books, 10 – 2
  examples of, 10 – 4
  reporting on, 10 – 5
  setting options, 10 – 2
  updating system profiles, 10 – 6
  using site level as defaults, 10 – 3
  when changes take effect, 10 – 2
Username. *See* Application user
UTF8, 6 – 32

V

Viewer Options window, 5 – 107

W

Windows, character mode mapping to GUI, E – 2
Work Directory, 13 – 2, 13 – 3
Work shifts. *See* Concurrent Managers

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